THE EFFECT OF CULTURAL AND MARKET FORCES ON INVESTOR-ORIENTED ACCOUNTING DISCLOSURE PRACTICES OF LOCAL VERSUS INTERNATIONAL ENTERPRISES

By

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I dedicate this dissertation

to my parents, Anthony and Lottie Zarzeski

and

to my husband, Tomas Taylor,

the three winds beneath my wings.

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Abstract of Dissertation Presented to the Graduate School
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Motivation for this study arises from ongoing international accounting harmonization efforts to increase financial reporting comparability across countries. While proponents contend that capital market investors need comparability, harmonization opponents argue that cultural differences across countries threaten the efforts to achieve a workable consensus among accounting regulatory bodies. Opponents also contend that international competitive pressures may be causing enterprises to increase financial disclosures voluntarily.

This research examines cultural and market forces that likely influence the investor-oriented accounting disclosure behavior of enterprises in local and international environments. Total disclosure level, the dependent variable, is measured from data in an enterprise's English version annual report. Cultural forces include individualism, masculinity, power distance, and uncertainty avoidance. Market forces, obtained from annual reports and survey responses, include foreign sales, foreign employees, institutional ownership of stock, debt ratio, and firm size. The study uses multiple regression analysis to examine the data from business enterprises across France, Germany, Hong Kong, Japan, Norway, the United Kingdom, and the United States.

Results show that disclosure practices of enterprises are, as expected, significantly positively correlated with individualism, masculinity, either foreign sales or foreign employees, institutional ownership, and size. Also, as expected, significant negative correlation exists between disclosure and uncertainty avoidance. Additionally, there is evidence that firms domiciled in more secretive countries, but more dependent on international resources, have disclosure behavior contrary to their home culture. This suggests that outside forces, such as foreign operations, can change cultural tendencies related to information dissemination.

There are two main findings in this study. First, competitive market forces appear to encourage firms to disclose higher levels of financial information. Second, cultural forces appear to underlie a country's disclosure practices, except when enterprises enter the global marketplace.

Implications are as follows. First, mandated international harmonization of accounting disclosures may not be easily accomplished because culture (which is not readily mutable) plays an influential role in information dissemination. Second, increased dependence of enterprises on the international marketplace appears to be causing a spontaneous increase in enterprise accounting disclosure.

CHAPTER 1
INTRODUCTION AND MOTIVATION

Introduction

This dissertation focuses on international accounting disclosure practices, measured from the point of view of the capital market investor. Investors seek information about local and international business enterprises in order to aid decision-making. Investor decision-making in the international arena is complicated by the different financial reporting systems across countries and by environmental differences such as law, economics, politics, and culture.

Similarly, reporting and environmental differences complicate operating decisions of a business enterprise in the international arena. Business enterprises that expand internationally face competitive pressures for resources upon which survival rests. Methods of obtaining resources (capital, materials, labor, and customers) are likely to be different in the international business environment because enterprises are outside their home base and more uncertainties exist. Such uncertainties emanate not only from economic[1] differences across countries, but also from legal, political, and cultural differences.

To mitigate uncertainties for resource providers and thereby obtain resources cost-effectively, an international enterprise may choose to disclose financial information demanded by outside parties. Choi's competitive disclosure hypothesis states that "...the demand for information would appear to be even stronger in an international setting where investors are often unacquainted with the relative merits of foreign borrowers [1973b, 159]." To be competitive, an enterprise doing business in foreign markets is likely to respond to market forces, i.e., resource providers, by increasing financial disclosures.

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[1] Economic refers to both microeconomic and macroeconomic differences.

An enterprise operating mainly in its local market is insulated from global forces because of tariffs, transportation costs, and local demand. A local enterprise is likely to disclose financial information at levels that are consistent with its culture-oriented financial reporting system. Culture is important to this study because it is purported to be an influence upon national required disclosures. Market forces are important to this study because they are purported to be an influence upon enterprise voluntary disclosure. Both required disclosure and voluntary disclosure comprise total disclosure, the primary variable of interest in this study.

Motivation

Motivation for this research arises from ongoing international accounting harmonization efforts that attempt to alleviate investors' decision-making problems via mandated international accounting standards. *Proponents* of harmonization contend that a mandatory setting of standards across countries is the best approach for increased comparability among international financial statements. Such comparability would increase protection of foreign investors and thereby encourage expansion of international financial markets.

Opponents of accounting harmonization argue that enterprises competing in international markets will spontaneously disclose financial information in order to be competitive. Mandatory disclosures, therefore, are unnecessary. Additionally, mandatory harmonization may not be possible in a business world of cultural, legal, political, and economic differences.

Several international organizations[2] responsible for the establishment of accounting guidelines are attempting to harmonize accounting standards across countries. Progress of the International Accounting Standards Committee is evidenced by their many written accounting standards, but there is no requirement for countries to obey the international accounting standards. Progress with the European Union (EU) standards has occurred over several years, but important measurement and disclosure issues were resolved by permitting two optional methods, rather than one method only. These options reduce the comparability across EU financial statements. The recently-formed International Organization of Securities Commissions (IOSCO) is attempting to find an acceptable financial reporting system for enterprises that list their shares on a foreign stock exchange.

Hayekian social theory has practical implications for the harmonization debate. Hayek [Lavoie 1990] believed that only some institutions are beneficial for the effective workings of evolutionary processes such as markets, law, and culture. The harmonization efforts of international accounting institutions may or may not be beneficial for the marketplace.

This research posits that enterprises dependent upon international markets for major resources are spontaneously disclosing levels of financial disclosure sought by investors. This research also posits that local enterprises, but not international enterprises, disclose financial information commensurate with their home culture. If such evidence exists, then the legitimacy of forced accounting harmonization for all firms across countries is questionable. Cultural differences would undermine efforts to achieve a workable consensus among accounting regulatory bodies. Rather, a resource driven approach, with the marketplace setting minimal disclosure standards, would be more likely to succeed.

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[2] Some of the major organizations are the International Accounting Standards Committee (IASC), the European Union (EU), the United Nations (UN), and the Organization for Economic Cooperation and Development (OECD).

The International Organization of Securities Commissions (IOSCO)[3] and the International Accounting Standards Committee (IASC) may benefit from this study because empirical evidence is provided about specific disclosure practices of internationally dependent firms that provide information desired by the global market. This study provides a country listing of the disclosure items that 90% or more of the sample firms provide in their English annual reports (see Appendix E). Developing countries, depending upon their cultural and market environments, may be able to use the country disclosure listing and the research results to develop an appropriate financial reporting strategy. If this study shows evidence of market forces correlating with accounting disclosure practices, then further analysis of the detailed disclosure items may provide valuable information for national and international standard-setting bodies.

This study goes beyond the research of Choi [1973b], who found significant improvement of enterprise financial disclosure upon entry into the Eurobond capital market. My disclosure study is the first to focus on debt, equity, and product markets. It is the first study to introduce the cultural dimensions[4] of Hofstede [1980] into an empirical analysis of accounting disclosure practices across local and international enterprises.

Organization of Remaining Chapters

Chapter 2 presents an overview of prior research studies that are relevant to the current research questions. In Chapter 3, I develop the Enterprise Disclosure Model and discuss the underlying theory for each related hypothesis. Variables and their measurements are included with the model development. Chapter 4 provides research design and data analysis methods. The statistical results are described in Chapter 5. Chapter 6 ends with the summary and implications of the study, accompanied by several future research issues.

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[3] The International Organization of Securities Commissions is attempting to develop reporting guidelines for firms listed on foreign stock exchanges. There is a possibility that the IASC accounting standards will be adopted as the required standards.

[4] Discussed in more detail later, the cultural dimensions are uncertainty avoidance, power distance, individualism-collectivism, and masculinity-femininity.

CHAPTER 2
REVIEW OF LITERATURE

Introduction

There are three main areas of literature relevant to this study: accounting disclosure [e.g., Choi 1973b; Adhikari and Tondkar 1992], multinationals and competition [e.g., Hayek 1978; Porter 1986, 1990], and the relationship between culture and accounting [e.g., Nobes and Parker 1981; Gray 1988]. A review of the accounting disclosure literature discusses economic justification for accounting standards, various disclosure scoring methods, and relationships of firm-specific variables with levels of accounting disclosure. A discussion of the competitive nature of multinational business enterprises provides the setting for the applicability of the theory of resource dependence to the Enterprise Disclosure Model. The theory is discussed in the next chapter. Finally, the literature relating culture and accounting presents a rationale for the inclusion of cultural dimensions in the Enterprise Disclosure Model.

Accounting Disclosure Literature

Regulatory Versus Market Forces

In an attempt to rationalize the international accounting harmonization debate, this section first examines the economic justification for accounting standards in general. Most proponents of accounting regulation assume that investors and creditors use financial information to make economic decisions that, in turn, improve the allocation of economic resources.[1] Such proponents perceive disclosure regulation as beneficial.

Numerous empirical studies, however, have shown minimal stock price effect upon the public release of the annual report[2], relative to other information releases [e.g., Firth 1981]. The markets capture the relevant microeconomic and macroeconomic news from sources other than the financial statements.[3] If financial statements have little effect on capital market prices that, in turn, affect the welfare of individuals, then the economic consequences of accounting are difficult to measure. Social welfare effects of accounting standards appear to be a troublesome research issue. Hakansson [1981] analytically shows how the imposition of expanded disclosure requirements would have negative, rather than positive, consequences for the economic welfare of the small investor. If an empirical cost-benefit analysis of accounting and financial reporting rules could be conducted, the outcome is questionable.[4]

Usefulness of information, Lev [1988] notes, is not an adequate guideline for accounting standards in a world of varied users with varied objectives. Lev [1988, 3] advocates that equality of opportunity, "equal access of information relevant for asset valuation," be the guideline for required disclosures in order to minimize the social consequences of inequity in capital markets. According to Lev, negative social consequences occur in the form of thin markets, high transaction costs, low liquidity, and decreased gains from trade. Lev's equity concept appears to provide an economically sound justification for disclosure regulation; however, not every industrialized country embraces capital market development as its primary objective of financial reporting.

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[1] This objective is espoused by the International Accounting Standards Committee.

[2] The company annual report, as in most disclosure studies, is the source for the dependent variable in this study.

[3] It is recognized that earnings information, which is a product of accounting regulation, does have a statistically significant effect on stock market prices in the US.

[4] One must bear in mind that annual financial reports that have been audited are assumed to have value because previously disclosed information has been corroborated by independent parties.

Because regulatory forces and financial reporting objectives differ across countries, international harmonization advocates must find agreement among the international financial community in regard to the objectives of the international standard-setting process. In an analysis of the IASC Comparability Project, Purvis, Gernon, and Diamond [1991, 43] conclude that "if global comparability of accounting standards is ever to be achieved, significant effort will have to be expended to alter the direction of accounting evolution, to emphasize international, rather than national, interests." With the added complexities of legal, economic, professional, and cultural differences among countries, there is doubt about the international acceptance of one set of standards that would accomplish the financial reporting comparability goal.

Market forces may be accomplishing the comparability goal to some degree. Choi and Bavishi [1982] find that financial disclosures of large companies across different countries have more similarities than do the home country accounting rules across countries. Rivera [1989, 323] questions the need for international accounting standards "...because lack of compliance with the international accounting rules has not impeded the development of international financial markets and foreign operations." Coleman [1981, 81] comments on the harmonization problem in relation to evolutionary processes:

> It is quite clear that accounting rules are often a reflection of profoundly rooted economic and social institutions and traditions. Thus, you cannot necessarily change an accounting rule without also changing the economic and social structures to which they relate.

Although accounting regulatory bodies across countries are a key component in achieving international accounting harmonization, there are national differences such as economics and culture that must be overcome in order to reach rule consensus. There appears to be evidence that competitive market forces may be accomplishing higher levels of enterprise financial disclosure. In the next section appears a summary of accounting disclosure studies relevant to the current study.

Prior Accounting Disclosure Studies

Since the 1960s, there has been research interest in the subject of accounting disclosures in annual reports. Research pertinent to the current study can be divided into two categories. The first category includes accounting disclosure questionnaires sent to various parties within the financial reporting process. Using the relevance ranking of disclosure items, researchers developed accounting disclosure indices or performed statistical tests of disclosure rankings. The second category of relevant disclosure studies involves the use of a disclosure index to measure accounting disclosure in annual reports. With disclosure as the dependent variable, correlations are investigated not only for US firms but also for foreign firms.

Questionnaires. In order to determine the usefulness of various financial disclosures, Singhvi and Desai [1971] and Buzby [1974] send questionnaires to US financial analysts. These researchers expand the work originally done by Cerf [1961] and discover somewhat similar rankings. The disclosure questionnaire of Baker et al. [1977] results in a strong agreement between US investors and Australian investors in regard to usefulness of financial information. This result is expected because of the United Kingdom's influence on both countries.

The next three studies show contrasts of opinions between different parties in the financial reporting process. In the US, Chandra [1974] finds that accountants do not value information for equity investment decisions in the same manner as security analysts. In the UK, Firth [1978] finds that finance directors and independent auditors hold similar views about disclosure importance, while financial analysts and bank loan officers hold similar views and relegate higher importance to disclosures than do the finance directors and auditors. In a cost-benefit study of multinational corporations' disclosure requirements, McKinnon [1984] finds that US Chartered Financial Analysts perceive the benefits of disclosure to be higher, while the controllers of US multinational corporations perceive the costs of disclosure to be higher.[5]

From the variation in the foregoing studies, one can see that it is essential to use financial analyst preferences when developing a financial[6] disclosure index to be used in the current study involving investment decision-making.

Accounting disclosure models. Choi [1973b] develops an internationally-focused disclosure index and utilizes it in his Eurobond study. Choi finds significant increases of financial disclosure for the firms entering the Eurobond market. Barrett [1976] modifies prior United States (US) disclosure indices and uses them to find increased levels of corporate financial disclosure in seven countries from 1963 to 1972. He finds, however, a wide variance between the disclosures from the United States and the United Kingdom and the disclosures from Japan, France, Germany, Sweden, and the Netherlands.[7]

The following disclosure studies each encompass *only one* country and examine a variety of explanatory variables. Singhvi [1968] finds that inadequate financial disclosure in India is likely to occur in small firms owned by few shareholders and managed by Indian management. Firth [1979] finds that British voluntary disclosure levels correlate with firm size and with stock market listing. In a study of New Zealand voluntary accounting disclosures, McNally, Eng, and Hasseldine [1982] find a significant relation with firm size, but not with industry or auditor size. Chow and Wong-Boren [1987] study voluntary disclosures in Mexican corporations and find a positive correlation between firm size and extent of disclosures. Similarly, Cooke [1991] finds firm size in Japanese corporations to be the single most important independent variable explaining voluntary disclosure. Stock market listings and industry sector[8] are also significantly related to voluntary disclosures.[9]

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[5] One of the three items of most value was data regarding the future impact of foreign operations on corporate earnings.

[6] The terms "accounting disclosure" and "financial disclosure" are used interchangeably in this study.

[7] Barrett notes that the results are consistent with the general belief that there is a link between the quality of financial reporting practice and the degree of efficiency of national equity markets.

Important to the current research is an empirical study of accounting disclosure requirements[10] across 34 stock exchanges [Adhikari and Tondkar 1992]. From their disclosure-preference survey of 287 financial executives across 41 countries, the researchers develop a disclosure scoring method and use it to measure each country's dependent variable. The study examines economic factors as explanatory variables for required disclosures. An overall significance level of .001 is achieved for the country disclosure model, but only one of five variables is significant and of the predicted sign: stock market size. This study provides evidence of capital market development as an underlying force for the diverse financial reporting systems across countries.

The next section presents an overview of the literature that interrelates multinational enterprises, competition, and information disclosure.

Multinationals, Competition, and Information Disclosure

A firm becomes multinational when it internalizes the transactions for which large information diseconomies exist across international borders. If a multinational firm is to compete successfully with firms that possess knowledge of local business conditions and traditions, the multinational firm must hold some form of competitive advantage. Examples of competitive advantage are product differentiation, proprietary knowledge, and marketing capability. Porter [1986] points out that competitive advantage of a firm can only be understood by analyzing discrete activities and not the firm as a whole. His examples of discrete activities embody accounting activities, which are physically distinct and readily observed.

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[8] The industry section found to be significant is manufacturing.

[9] Firm size is used as a control variable in the current model. Size proxies are expected to be correlated with the foreign sales variable that is included in the Enterprise Disclosure Model.

[10] An examination of country disclosure requirements provides a view different from the enterprise disclosure studies discussed above.

The current study examines the accounting activities of local and multinational business enterprises in an attempt to evaluate the effect of competitive market forces upon accounting disclosure practices. Gray, Shaw and McSweeney [1981] discuss the increasing pressures for higher levels of accountability from multinational enterprises. Such pressures result not only from multinational firms' significant power over resources, but also from the risk-reducing incentive of firms to display themselves as quality firms.

Competition involves the revelation and exchange of knowledge or information about quality [Alchian & Demsetz 1972]. In an analytical capital market scenario, Verrecchia [1983] shows that traders are unable to interpret withheld information of a firm as good or bad in comparison to the firm's competitors. The traders are likely to discount the value of the firm, thereby encouraging thorough disclosure practices by the firm. In a product market scenario, Darrough and Stoughton [1990] use game theory to show that competition in the product market encourages voluntary disclosure because disclosure helps the financial market to value the entrenched firm more accurately.[11]

Typically, international enterprises are risk-diversified in two ways: by product market and by financial market [Buckley and Casson 1985]. To achieve diversification, international enterprises may be willing to disclose higher levels of financial information than disclosed by local enterprises in their home country. Significant foreign sales and foreign capital are indicative of a firm's international dependence and are expected to influence financial disclosure behavior. Major enterprise resources examined in this dissertation are foreign sales, foreign employees, and foreign assets[12], the competition for which produces continuous pressures [Mautz and May 1978].

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[11] It is noted that the sample of enterprises in the current study does not include new entrants into foreign markets. In other words, the cited study appears applicable to the sample of entrenched international firms in the current study.

Firms adopting a national competitive strategy may either maintain stable local sources of capital, materials, labor, and customers, or obtain resources via changes in their organization structure, e.g., vertical or horizontal integration. Williamson [1975] explains how firms form hierarchies of suppliers and wholesalers in order to lower transaction costs. Such hierarchies encourage private sharing of financial information, thereby decreasing information demands from outsiders.

Firms adopting an international competitive strategy are likely to operate in a highly competitive or growth environment because the firms rely upon global resources. To obtain foreign customers, firms may choose to disclose more information to enhance public image [Lundblad 1991]. To obtain foreign capital at lower costs, firms may increase their financial disclosures in order to demonstrate the quality of earnings and assets [Choi 1973b; Diamond and Verrecchia 1991].

Despite the influence of market forces on enterprise disclosure, the harmonization debate continues. Because Hayek [1978] believes that evolutionary processes occur in a competitive world, he might espouse that international market forces are causing sufficient information disclosure by firms. Hayek notes that "competition as a process focuses on the ability of markets to accomplish what is strictly unpredictable before the process takes place [1978, 180]." The process theory of competition views organizational innovation[13] as a response to external demands arising from property rights. Hayek might tend to disagree that official accounting standard-setting is necessary.

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[12] The proxy for foreign assets is the number of foreign subsidiaries controlled by the multinational firm.

[13] The innovation examined in this study is higher levels of information disclosed in enterprise annual reports.

On the other hand, Gray et al. [1981] prefer gradual implementation of international accounting standards, but only for multinational firms and on a regional basis at first. They list significant disclosure and measurement issues of multinational concern. Some of the disclosure issues are employment conditions, production, investment, segment information, and transfer pricing policies.

Despite the external pressures for information disclosure, Gray et al. [1981] emphasize that the multinational's disclosure behavior is very strongly influenced by its home culture. The current study examines a firm's international disclosure strategy--whether higher levels of competitive, international activity encourages a firm to disclose more information than typically provided by the local firms domiciled in its home country.

The next section presents the literature linking culture and accounting. Gray's [1988] theory of cultural influence upon accounting is introduced.

Culture and Accounting

Background

A culture grows and develops in response to environmental stimuli, similar to the growth of accounting disclosure behavior and its response to its environment. Culture is an acquired behavior and is a natural product of man's activities, as is an accounting system [Violet 1983]. The accounting development of a country occurs from interaction of several main interest groups: the enterprise, the government, the capital markets, and the accounting profession. The accounting behavior of an enterprise can be understood as rituals that fulfill a cultural need for certainty and simplicity [Hofstede 1985].

There are several classification studies that show evidence of environmental patterns associated with national systems of accounting [e.g., Mueller 1967; Radebaugh 1975; and Belkaoui 1983]. Perera [1985] links international accounting harmonization resistance to cultural differences across countries. Gray [1985] explains that enterprises in economically developed countries are probably more candid so that business performance can be evaluated by society. Culture and accounting each proceed from a foundation of satisfying wants and needs of societies.

In a discussion of the functioning of societies, of groups within societies, and of individuals within those groups, Inkeles and Levinson [1969] list the following issues[14] that qualify as basic problems of man and society worldwide: 1) dealing with conflicts, 2) relation to authority, and 3) conception of self in relation to society and conception of masculinity and femininity. In explaining these societal problems, the seminal work of Hofstede [1980] empirically quantifies four cultural dimensions: uncertainty avoidance, power distance, individualism-collectivism, and masculinity-femininity. An independent validation of Hofstede's cultural dimensions, using Rokeach's Value Survey, shows strong support for the universality of the four dimensions [Hofstede 1980; Hofstede and Bond 1984].

Uncertainty avoidance, the extent to which a culture programs its members to feel uncomfortable in unstructured situations, explains society's way of dealing with conflicts. Power distance, the degree to which people are encouraged to have a will of their own, explains the relation of an individual to an authority figure. Individualism versus collectivism, with its degrees of self-interest, explains the relationship between the individual and society. Masculinity implies an assertive, competitive nature, rather than a nurturing feminine nature [Hofstede and Bond 1988].

Gray's Theory of Cultural Influence

Utilizing accounting as a subculture, Gray [1988] posits several hypotheses that relate Hofstede's [1980] cultural dimensions to accounting systems. Gray develops a framework for analyzing the development of accounting systems by using accountants' value systems, purported to be derived from societal values. The accounting values used by Gray include professionalism versus statutory control, uniformity versus flexibility, conservatism versus optimism, and secrecy versus transparency. The last value grouping forms the foundation for the current study because information disclosure, whether required or voluntary, depends upon the level of secrecy in each culture.

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[14] These issues become partitions of culture when Hofstede builds his cultural dimensions upon them.

Although Gray's theory of cultural influence[15] has not yet been used in empirical tests of current accounting disclosure practices, Perera [1989] uses the theory in a descriptive analysis of different cultural environments and their accounting systems. Perera concludes that the Anglo-American accounting model espoused by the International Accounting Standards Committee is likely to encounter relevance problems in Continental Europe and other culturally diverse environments. Gray and Vint [1994] test Gray's theory by using the database of disclosure practices from the 1984 project conducted by the University of Glasgow and Deloitte Haskins and Sells. Across 27 countries and in univariate regression analysis, the researchers find significant correlations between each cultural dimension and the mean accounting disclosure score of each country's enterprises.[16] In a multiple regression analysis, the best model shows significance at the one percent level, with individualism positively related to accounting disclosure and uncertainty avoidance, negatively related.

Hofstede's cultural dimensions are used by researchers in other accounting and business contexts. Smith et al. [1993] show that a link exists between culture and the attitudes of professional accountants in regard to international harmonization efforts.

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[15] The theory of cultural influence includes a hypothesized relationship between each of the four cultural dimensions and accounting disclosure. The model development chapter includes details of the hypotheses.

[16] Individualism and masculinity are positively related to accounting disclosure, while uncertainty avoidance and power distance are negatively related.

Chow et al. [1993] find cultural differences between US and Japanese management controls.

Use of Culture in Current Study

The current study of total accounting disclosure of enterprises includes market forces and the four cultural dimensions of Hofstede [1980] as explanatory variables. Because total disclosure is expected to contain all or most[17] of required disclosures, I test Gray's [1988] hypotheses[18] relating the four cultural dimensions to accounting disclosure. The level of enterprise secrecy is expected to influence both the required and the voluntary portions of total accounting disclosure.

The current study also examines changes in disclosure behavior that occur as international forces cause cultural secrecy to change. Culture exhibits not only continuity, but change [Ajiferuke and Boddewyn 1970]. Accounting culture is expected to change in response to the business environment. Events known to be especially influential in producing cultural change include contacts with people of different cultures, but only if the new behavior is rewarding. This study posits that financial disclosures will increase if an enterprise experiences related rewards in the international marketplace. Such rewards include, e.g., higher levels of customers, employees, and assets and lower costs of financing. Disclosure behavior of internationally dependent firms is expected not to be related to its home culture, e.g., characteristic secrecy levels. This study attempts to examine the specific context in which the disclosure innovation occurs in the financial reporting system of international enterprises.

The next chapter uses the foregoing studies and develops the theory and hypotheses for the Enterprise Disclosure Model.

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[17] Recall that the total disclosure score is obtained from the English-version annual report and, therefore, may not contain all required disclosures of a particular country.

[18] The next chapter discusses Gray's culture-accounting hypotheses.

CHAPTER 3
THEORY, MODEL DEVELOPMENT, AND RESEARCH HYPOTHESES

Introduction

This section provides a theoretical foundation for the development of the so-called Enterprise Disclosure Model and its hypotheses. The hypotheses relate cultural and market forces to total accounting disclosure of local and multinational business enterprises. For each relationship of variables in the study, a description, theoretical construct, operational proxy, and hypothesis are provided in the section following the discussion of relevant theory.

Theoretical Overview

The current study examines the evolutionary nature of financial reporting systems by investigating the total financial disclosures of firms in both local and global marketplaces. Product and capital marketplaces, in particular, are examined through the Enterprise Disclosure Model.

Before explaining the implications of the three intertwining theories, I provide a brief discussion of the relationship of the Enterprise Disclosure Model to strategic management theory. Environmental influences affect firm behavior, and disclosure behavior is the firm behavior studied in this dissertation.

Strategic Management Theory: A Broad Perspective

The firm strategy paradigm, although typically examining organizational structure, encompasses all strategies of a business enterprise. Financial disclosure practices are a component of a firm's overall business strategy.

In strategic management theory, the dominant paradigm attempts to explain the effect of the environment on firm strategy, on firm behavior and, ultimately, on firm performance. Figure 3-1 depicts the basic Firm Strategy Paradigm and its correspondence with the Enterprise Disclosure Model developed in this study. Organization theorists such

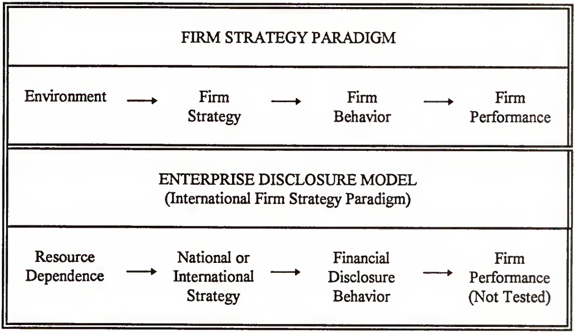
FIRM STRATEGY PARADIGM
Environment
Firm Strategy
Firm Behavior
Firm Performance
ENTERPRISE DISCLOSURE MODEL
(International Firm Strategy Paradigm)
Resource Dependence
National or International Strategy
Financial Disclosure Behavior
Firm Performance (Not Tested)

Figure 3-1
Relationship of Firm Strategy to Disclosure Strategy

as Pfeffer and Salancik [1978] and Barney and Ouchi [1986] approach the environment as the unknown and the firm as the adapter. The adaptation behavior usually studied is organizational structure. Theorists posit that if the firm interprets its environment with any accuracy, it will take actions (strategies) to perform more effectively, i.e., earn higher profits.

The current study examines 1) the firm's resource dependence on the environment, 2) the firm's strategy of obtaining the resources nationally or internationally, and 3) the effect of the strategy on financial disclosure behavior. The fourth element of the paradigm, effect on firm performance, will be addressed in future research but is examined as a control variable in this study's replication testing. Next is a discussion of the three underlying theories of this research. Figure 3-2 shows the relationship of theory to the dependent variable, total accounting disclosure.

First, the theory of spontaneous order of the market [Menger 1883; Hayek 1988] is used as the study's fundamental theme because financial reporting systems appear to be the result of evolutionary processes that differ across countries. Spontaneous activity in the marketplace directly affects enterprise voluntary accounting disclosure, which indirectly affects required national accounting systems. Second, cultural theory helps to explain the influence of international differences in business practices and capital market development, which affect required accounting standards [Conner and Becker 1975; AAA 1977; Nobes 1983; Hofstede 1991]. Third, resource dependence theory [Pfeffer and Salancik 1978] describes a business' need for capital, labor, materials, and customers and its effect on voluntary disclosure behavior of business enterprises. The three theories in combination help to explain the influences upon an enterprise's total disclosure behavior.

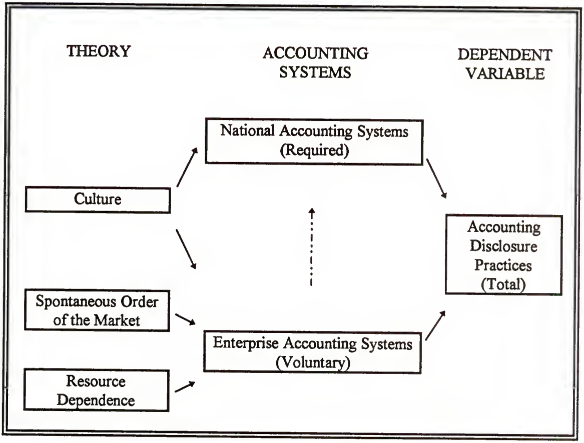
THEORY
ACCOUNTING SYSTEMS
DEPENDENT VARIABLE
National Accounting Systems (Required)
Culture
Accounting Disclosure Practices (Total)
Spontaneous Order of the Market
Enterprise Accounting Systems (Voluntary)
Resource Dependence

Figure 3-2
Relationship of Theory to Dependent Variable

Each of the next sections presents a more detailed explanation of the interrelationships of the three theories and their significance to financial disclosure.

Theory of Spontaneous Order of the Market

The institutions of markets and of financial reporting systems are the focal points of the current research. Economic activity occurs within a society's institutional framework. Menger [1883] espouses the spontaneous ordering of economic activity, wherein many institutions arise as a result of numerous individuals pursuing their own interests via economic information that is not available to any one individual or group in its totality. Throughout the world, markets and economic systems have evolved spontaneously. Likewise, financial reporting systems have responded to the needs of economic participants across countries.

Evolutionary processes in economic markets help to explain how financial reporting developed over time and how reporting behavior may change when international business transactions occur. Hayek espoused Menger's theory of spontaneous order [Boettke 1990]. Fundamental to the current study is Hayek's [1988] belief that a system of market-determined prices is indispensable in making individuals adapt their activities to events and circumstances not fully known by them. Market-determined prices for capital, labor, and customers are expected to cause businesses to disclose additional financial information in order to obtain resources at reasonable costs.

The information demands of resource providers, along with the spontaneous supply of information by international enterprises, exemplify unarticulated rules of conduct. Hayek [1955] noted that before there is agreement on articulated rules, the implied rules of conduct over time will be followed. This research examines financial disclosure practices as enterprises compete in product and capital markets that have both implied rules of conduct and market-determined prices.

The international marketplace appears to be a valid context in which to examine enterprise financial disclosure behavior because differences across national (local) accounting systems may be mitigated by the demands of the market system. For example, international enterprises may disclose higher levels of information than local enterprises in their home country in order to compete and operate effectively in foreign markets. Also, spontaneous order analysis applies to patterned social phenomena, i.e., culture [Cronk 1988]. Next is a discussion of culture's impact on financial reporting systems. Culture is important to this study because cultural forces are country-specific and relate to the secretiveness of a society, whereas market forces are enterprise-specific and relate to resource dependence of a firm.

Cultural Theory

Background

Culture is a tradition of learned rules of conduct that have not been explicitly invented and that are not usually understood by the acting individuals [Hayek 1982]. Hayek [1988] states that the logic of cultural dynamics involves understanding how the independent actions of individuals produce an order that is no part of their intentions. In any evolutionary process there exist cultural consequences. Culture underlies economic market development in which the power relations among financial institutions, customers, and enterprises evolve within an economy.[1]

Values, being a part of culture, are beliefs about desirable end-states; values underlie attitudinal and behavioral processes [Conner and Becker 1975]. For example, England [1975] studies managers and their values and concludes that moralistic managers may be more resistant to change than pragmatic managers who look at expected outcomes of actions. Cultural peculiarities can change over time because people face conflicts between what they have come to believe and what they perceive as rewarding in their environment.

Cultural Dimensions

As discussed in the review of literature section, this study utilizes Gray's [1988] theory of cultural influence, founded upon Hofstede's [1980] cultural dimensions. The theory helps to explain the cultural development of businesses, capital markets, and financial reporting regulations and practices across countries. Countries with high individualism, high masculinity, small power distance, and weak uncertainty avoidance are hypothesized to be less secretive.[2] Such countries are more likely to have developed business relationships that provide public information. More secretive countries, on the contrary, are more likely to have developed direct financing relationships with banks, governments, and close associates. Disclosure, which denotes openness of a society, is expected to relate to a society's level of secrecy versus transparency.

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[1] For example, reliance of German and Japanese firms upon financing from their major banks is an evolutionary process that appears to have diminished the role of capital markets, when compared with capital market development in the United States and in the United Kingdom.

Public access to information enhances growth of capital markets. Such capital markets possess accounting systems that are more demand-driven by market forces because financial resources are obtained in an open[3] market setting. The accounting systems of countries with less emphasis on capital markets are not likely to have such high demands for public information. Their accounting systems are expected to be more supply-driven by cultural forces because business resources are obtained via banks and interrelated business groups, often within the home country.

There is an emphasis on capital market development in this study because the variable to be studied (the dependent variable) is investor-oriented disclosure practices. The extensiveness of capital market activity is assumed to exert influence on national (local) accounting systems for both required and voluntary disclosures [Macharzina 1988].

Culture, Accounting Environment, And Change of Disclosure Behavior

Even though culture permeates accounting and business practices [Nobes and Parker 1981, Violet 1983, Arpan and Radebaugh 1985, Perera 1985], innovations that are inconsistent with pre-existing cultural norms may arise [Shapiro 1960]. Of all types of innovation, cultural borrowing[4] is the most common and important because it is highly economical to borrow if a practice already works for another society [Murdock 1949].

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[2] Further detail about the cultural dimensions is found in the design of the model.

[3] Open also implies competitive.

[4] Cultural borrowing is the adoption of another cultural group's value-orientations. Borrowing depends upon contact and is expected to occur only if the new habit is demonstrably rewarding.

The current study views accounting disclosure behavior across countries as an overt manifestation of values and as an outcome of international enterprise activity. Enterprises having international economic contacts are likely to transcend cultural forces underlying their national financial reporting system in order to obtain the economic rewards[5] from increased levels of financial disclosure. Hofstede's cultural dimensions are used to examine whether the total financial disclosures of local firms are more reflective of their national culture than are the total financial disclosures of internationally dependent firms. This study examines whether international resource dependence results in financial disclosure behavior unlike that of the home culture.

Resource Dependence Theory

The key to business enterprise survival is the ability to acquire and maintain resources such as capital, labor, materials, and customers. An enterprise becomes externally dependent when it must rely upon non-related entities for a crucial resource that is scarce or controlled by other than the enterprise itself. Resource dependence theory is an explanation of how enterprises manage and control environmental uncertainty [Pfeffer and Salancik 1978].

Firms develop and modify practices to solve problems that arise as they attempt to realize value from business transactions. Accounting disclosures are a product of practical solutions developed at the micro level and institutionalized through conventions at the macro level [Leblebici and Salancik 1982]. Institutionalized conventions (such as capital markets and accounting standards), although solving some problems, can produce distributional outcomes not advantageous to all parties because competition for resources can intensify.

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[5] The rewards are lower-cost business resources.

Stearns [1986] finds that international capital market development helps mainly the prime borrowers. She uses resource dependence theory to show empirically that increases in corporate capital needs in periods of tight capital market conditions increased institutional control over corporations. Resource providers, therefore, exert considerable control over resource seekers.

Resource dependence theory encompasses agency theory, but has an added dimension. While agency theory emphasizes the use of resources, the focus of resource dependence theory and of this research is resource acquisition. While the central goal of most theories of individual behavior is the maximization of output from given resources, this study examines firm behavior in a global environment of unstable resources.[6] Economists give credence to the context of an organization but tend to take the environment as a given. The Enterprise Disclosure Model examines the uncertain environment in which resource needs must be met by firms in a global economy. The model is described in the next section.

Enterprise Disclosure Model

The Enterprise Disclosure Model developed in this study and illustrated in Figure 3-3 links cultural and market forces to investor-oriented disclosure practices of enterprises in seven industrialized countries. A disclosure index of total accounting disclosures is computed for local and international manufacturing enterprises[7] in France, Germany,

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[6] See Appendix A containing a more detailed explanation for this study's emphasis on resource dependence theory rather than agency theory.

[7] The five major industries chosen for this study are discussed in the research design section.

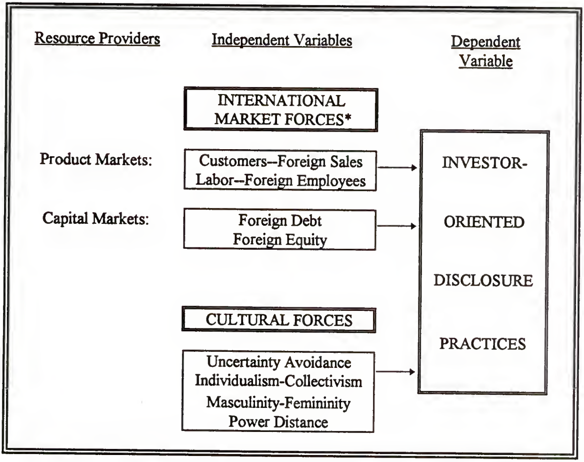

Figure 3-3
Enterprise Disclosure Model

* = Local market forces are tested in an alternate model.

Hong Kong, Japan, Norway, the United Kingdom, and the United States. The rationale for selection of the seven countries is provided in the research design section.

Following the illustration of the Enterprise Disclosure Model are directional relationships of each explanatory variable in Equation 1. Note that any control variable and any indicator variables[8] are added to the main model during the testing phase.

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[8] Country indicator variables cannot be utilized because the cultural dimensions are also country-defined, thereby causing biased estimates of the coefficients.

Enterprise Disclosure Model--Directional Relationships

$$DISC_i = b_0 + b_1FSALES_i + b_2FEMPLOYEE_i + b_3FCAPITAL_i - b_4UNCER_c + b_5INDIV_c + b_6MASCU_c - b_7POWER_c + \varepsilon \qquad \text{(Eq. 1)}$$

Designation of Specific Variables

Dependent Variable.

DISC = Total enterprise disclosure/total disclosure possible

Independent Variables--Market Forces.

FSALES = Foreign sales in \$ US mil./total sales in \$ US mil.
FEMPLOYEE = Foreign employees/total employees
FCAPITAL = 1) Percentage of total debt listed on foreign exchanges and 2) Percentage of total common shares held by foreign owners.

Independent Variables--Cultural Forces.[9]

UNCER = Uncertainty avoidance
INDIV = Individualism-collectivism
MASCU = Masculinity-femininity
POWER = Power distance

Control Variable.

SIZE = Natural log of total assets (\$ US mil.)

Indicator Variable.

INDUSTRY = Industry categories totaling seven (Construction, chemicals, fabricated products, machinery, electrical equipment, transportation equipment, and miscellaneous category)

Subscripts.

i = Enterprise-specific
c = Country-specific

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[9] Each cultural force is a continuous variable, ranging from 6 to 112 from Hofstede's study [1980]. Higher values imply more of that cultural trait.

Dependent Variable

The primary variable examined in this study is total investor-oriented disclosure (DISC). This variable is a composite of financial information that an enterprise provides in its English version annual report and that international investors find beneficial for their decision-making. For example, if geographic sales are an important disclosure for investors and if an enterprise discloses it, relevance-weighted points are allocated to that enterprise's total score for investor-oriented disclosure practices. Relevance weighting for each disclosure item is obtained from various disclosure studies that asked investors to rank the importance of disclosure items.

The English version of each company's annual report provides the data for compilation of the dependent variable. English is the international language of business, and this study focuses on the information needs of the international investor. In addition, while international companies do not produce translated annual reports in all languages, they tend to translate into the English language.

The total disclosure points earned by a company are divided by the total possible maximum points for each of five scoring methods. This provides a relative, rather than an absolute, measure for the dependent variable. Most of the independent variables are also relative measures.

The disclosure level is measured with the disclosure scoring methods designed by researchers of four different studies [Singhvi and Desai 1971; Choi 1973b; Barrett 1976; Adhikari and Tondkar 1992], *and* with a comprehensive scoring method. Both quantitative and non-quantitative disclosures are used in the current study in order to obtain a more complete measure of information dissemination. On par with prior studies, this study utilizes the disclosure items that are reasonably expected to occur annually in every company; e.g., discussion of significant products, research and development activities, and capital expenditures.

The fifth scoring method (the Zarzeski method) is developed in this study in order to have a comprehensive method that includes all disclosure items in the other four methods. Three items desired by lending officers [Chow and Wong-Boren 1987] are added to the Zarzeski method: cash projections for one to five years, past pension fund liability, and allowance for doubtful accounts. Slight adjustments are made to some of the disclosure weightings in the Zarzeski scoring method in order to update the investor usefulness level, in light of research findings over the past ten to twenty years. Appendix D contains the point allocations for the four prior scoring methods and for the comprehensive scoring method.[10]

Each disclosure measure is an importance ranking in and of itself because the respondents to research questionnaires were asked to weight each item in the disclosure list in terms of importance for their decision-making. By examining the weighting for each of the items in Appendix D, one can argue that the respondents answered each item in relation to the other items. In other words, there is a revealed ranking (preferences) within the scores. For example, historical data for 9 or more years may be allocated 3 points, while historical data for 2 to 5 years may be allocated 1 point (higher points signify a higher preference by financial analysts).

To summarize, each variation of the Enterprise Disclosure Model in this study is analyzed five times, with a differently scored dependent variable (e.g., DISCA, DISCB, etc.). The iterations of the five weighted methods are performed to determine whether there are differences among them in relation to the explanatory variables. The main model (explained later) is analyzed an additional five times with unweighted measures comprising the dependent variable. Unweighted measures designate one point for each item that a firm discloses. The unweighted scoring is performed to determine whether weighting schemes are necessary in developing investor-oriented disclosure models. In addition, replications of other disclosure models are performed in order to check the reliability of the scoring methods and overall data, especially the data collected by survey.

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[10] The abbreviations for each scoring method are as follows: DISCA for Adhikari and Tondkar, DISCB for Barrett, DISCC for Choi, DISCD for Singhvi and Desai, and DISCZ for Zarzeski.

Voluntary disclosure scores are developed by deleting the items disclosed by at least 90% of the companies in each country. In this study the items deleted are considered to be required disclosures by a particular country, especially for the multinational enterprise that prepares an English annual report. Maximum *total points* in each scoring method minus *required points* in each country equals maximum *voluntary points* in a particular country. Equation 2 shows the calculation of a company's total disclosure score (DISC). Equation 3 shows the derivation of a company's voluntary disclosure score (VOL), starting with the total disclosure equation.

$$\text{Total Disclosure} = \frac{\text{Actual Total Points Earned}}{\text{Maximum Total Points}} \qquad \text{(Eq. 2)}$$

$$\text{Voluntary Disclosure} = \frac{\text{Actual Total Points Earned} \quad \text{minus} \quad \text{Actual Required Points Earned}}{\text{Maximum Total Points} \quad \text{minus} \quad \text{Required}^{11} \text{ Total Points}} = \frac{\text{Actual Voluntary Points Earned}}{\text{Maximum Voluntary Points}} \qquad \text{(Eq. 3)}$$

Each country has a different denominator for its voluntary disclosure score.[12] The United States has the most *required* items (60%) deleted from the original denominator[13],

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[11] Required points differ across the seven countries.

[12] In the DISC scores that represent total disclosures, each country has the same denominator (the maximum points for each particular scoring method).

[13] The *required* items deleted from the other six countries range from 12% in France to 39% in Norway.

in order to obtain the "voluntary" score for each US company. Caution must be exercised in the interpretation of voluntary disclosure results because the numerator-denominator relationship is not as comparable across countries as in the total disclosure scoring. Because the United States has the most required items deleted, the US voluntary scores are lower than expected for a less secretive country. When voluntary disclosure is the dependent variable and the United States firms are included in the sample, conservative results are expected due to *understatement* of those firms' real voluntary disclosure.

Use of total disclosure versus voluntary disclosure. Rationale is now provided for the use of each of the dependent variables across the hypotheses. First, cultural forces are expected to correlate with *both* required and voluntary disclosure, i.e., *total disclosure*. Culture underlies national accounting systems (i.e., required disclosure). Several values in the accounting subculture contribute to the degree of secrecy in a society: conservatism, uniformity, and accounting professionalism, as discussed previously [Gray 1985]. National accounting systems evolve over time and are a product of culture. Culture also influences *voluntary disclosure* behavior of business enterprises. In less secretive countries, voluntary disclosures are expected to be higher than in secretive countries. Individuals who make financial reporting decisions usually possess value systems congruent with their home culture. More voluntary disclosure of information in a secretive society is expected if there are little or no alternative methods of obtaining resources without additional public disclosure.

Second, market forces are expected to correlate with voluntary disclosure behavior of business enterprises. In order to achieve lower costs, enterprises dependent on outside resources (capital, labor, materials, and customers) are likely to be less secretive about the quality of their operations.[14]

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[14] Since total disclosure encompasses voluntary disclosure, market forces will also be tested for their association with total disclosure.

Third, the international dependence hypothesis appears to relate more closely with voluntary disclosure because the hypothesis examines disclosure behavior when a firm is more or less dependent upon international resources for survival. The question is whether the firm finds it advantageous to disclose additional information in order to compete in the international marketplace.[15]

Finally, the country models can be tested with either total or voluntary disclosure.[16] Both required and voluntary disclosure behavior are likely to be different across countries. Market forces are likely to have different effects upon total disclosure behavior because of the secretive nature of each society. More secretive societies are likely to have developed close relationships with resource providers, thereby reducing the demand for public information.

Independent Variables

For the two categories of independent variables, market forces and cultural forces, the operational variables are explained next.

Market forces. As international product markets and financial markets become more accessible due to technological advances in transportation and communications, business enterprises increasingly confront the globalization decision. Expansion into foreign markets offers growth potential to all enterprises, although internationally-dependent firms are typically large or medium in size. Global expansion is a strategic enterprise decision encompassing resources: capital, materials, labor, and customers.

Enterprises may choose a strategy that relies upon international or national resources. The decision to operate internationally is likely to be dependent upon domestic limitations. Banks are a dominant source of capital in many industrialized countries, e.g., Germany and Japan. International enterprises in such countries are likely to have minimal dependence on foreign financial resources.

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[15] Since caution must be exercised with the interpretation of voluntary disclosure tests, this study will also test the international dependence hypothesis with total disclosure, the scoring method more standardized across countries.

[16] Only the market forces can be included as explanatory variables. The cultural forces are similar within a country; therefore, no variation exists to be tested.

Enterprises seeking foreign resources are posited to increase financial information disclosure in order to reduce uncertainty among the relevant parties in the marketplace. Enterprises choosing not to enter the foreign marketplace are likely to adopt strategies within their national borders in order to obtain low-cost resources. This study also examines the strategy of utilizing foreign subsidiaries to obtain materials, labor, and customers, thereby increasing the demand for public information about the quality of the firm. The four primary international market forces of the Enterprise Disclosure Model are: foreign sales, foreign employees, foreign debt, and foreign equity.

FSALES represents relative foreign sales, the percentage of foreign sales to total sales that multinational enterprises typically disclose in their annual reports. This measure represents customer relationships directly with wholesalers and indirectly with ultimate consumers. Sales to foreign customers are important because they not only represent a resource of firms, but also may proxy for other resources. When there are significant foreign sales, a firm is likely to have foreign operations that utilize foreign materials, labor, and capital.

Customer relationships may influence an enterprise to disclose financial information voluntarily in order to reduce its risk classification and to promote its corporate image. Because information is already being provided to outside parties, the firm may also choose to disclose the information to the public via the annual report.

In Lundblad's study [1991] of international executives' motivations for disclosure decisions, the creation of a positive corporate image with customers, suppliers, and employees was the highest ranked response. Saudagaran [1988] found a significant positive relationship between the percentage of foreign sales to total sales and the listing of enterprise shares in foreign markets. He rationalized use of foreign sales as a variable by conjecturing that a possible motive of listing abroad is the visibility and name recognition for a firm's products. In another disclosure study [Zarzeski 1991], the foreign sales to total sales variable is significantly correlated with investor-oriented disclosures in five individual country models[17] and in a country composite model. The following hypotheses are stated in the alternative form.

> H1 for FSALES (+): Enterprises that have higher proportions of foreign sales are likely to provide higher levels of investor-oriented disclosures.

FEMPLOYEE represents relative foreign employees, the percentage of total employees that work in foreign markets. Employees are a major resource needed by firms. When a firm operates divisions or subsidiaries in a foreign country, its assets include its foreign employees. Employees may not have direct influence on the disclosure behavior of a company, but larger percentages of foreign employees are likely to indicate more foreign activity overall. As discussed previously, international activity and competitive pressures are likely to encourage a firm to disclose information about its quality. The data for relative foreign employees is gathered from the company surveys and corroborated in many of the annual reports.

> H2 for FEMPLOYEE(+): Enterprises with larger proportions of foreign employees are likely to provide higher levels of investor-oriented disclosures.

International capital sourcing is operationalized with foreign debt and foreign equity. FCAPITAL represents the relative value of a firm's foreign capital, both debt and equity. Multinational enterprises face disclosure pressures when competing for funding in the international capital markets, but secrecy is self-defeating because capital providers can find alternative investments [Mueller et al. 1991]. More disclosure about the quality of the firm may reduce financing costs. There is empirical evidence of increased accounting disclosure when enterprises enter foreign capital markets [e.g., Choi 1973b;

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[17] The countries include France, Germany, Japan, the United Kingdom, and the United States.

Stonehill and Dullum 1982]. In Lundblad's study [1991] of factors underlying voluntary disclosure, international executives rank capital sourcing as their second-highest motivation.

For firms with higher proportions of foreign debt financing, it is posited that the firms have more investor-oriented disclosures in their annual reports. Likewise, for firms with higher proportions of foreign stockholders, it is posited that the firms have more investor-oriented disclosures in their annual reports. There is a caveat regarding foreign debt and equity. The degree of foreign capital sourcing's influence on disclosure is likely to depend upon the secretiveness of the country in which the capital sourcing occurs versus the country in which the enterprise is domiciled. For example, US and UK investors, because of higher disclosure requirements in their countries, are accustomed to receiving higher levels of financial information in order to make sound investment decisions. Meek and Gray [1989] find that non-British companies listing their shares on the London Stock Exchange[18] exceed disclosure requirements through a wide range of voluntary disclosures. Disclosure requirements and user expectations in the United States and the United Kingdom are among the highest in the world.

To operationalize FCAPITAL, data from the company surveys are used: 1) percentage of total debt that is listed on foreign exchanges and 2) percentage of common shares held by foreign owners. Alternative proxies for foreign debt are a) foreign bank debt divided by total assets or total debt and b) the debt ratio, measured by dividing total debt by total assets. An alternative proxy for foreign equity is the percentage of common shares owned by institutional investors, who may influence firms to disclose information. Rationale for the alternative proxies exists in the accounting and finance literature. No empirical research study to date has specifically examined foreign stock ownership or percentage of foreign debt in relation to accounting disclosures.

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[18] The London Stock Exchange is also called the International Stock Exchange. Therefore, the purchasers of stock listed on this exchange emanate from many countries.

> H3 for FCAPITAL(+): Enterprises with larger proportions of public foreign debt and public foreign equity are likely to provide higher levels of investor-oriented disclosures.

Cultural Forces. Next are the hypotheses explaining the expected relationships between accounting disclosure and the four cultural dimensions of Hofstede [1980], as hypothesized by Gray [1988]. By employing a multidimensional scaling of 164,000 questionnaires involving 64 countries, Hofstede [1980] developed a quantitative measure for each cultural dimension in each sample country. The measures are continuous variables that range from 6 to 112. Gray developed a theory of culture's influence on accounting disclosure by looking at secrecy versus transparency across countries.

This study captures required and voluntary disclosures, both of which are indicative of the secretiveness of a country.[19] The following discussions of culture's relationship with accounting include secrecy's influence on the development of business institutions and governmental involvement with accounting systems. Refer to Figure 3-4 at the end of this chapter for an overview of the four culture-accounting relationships.

UNCER, a measure of uncertainty avoidance, is the tendency of a society to rely upon organizations to make risky decisions. Financing a business involves risky decisions. Countries vary with respect to the proportion of enterprise financing arising from banks versus the capital markets. Countries with strong uncertainty avoidance are expected to develop financial institutions that offer business organizations more certainty of financial support. Banking relationships appear more suitable for secretive cultures with strong uncertainty avoidance.

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[19] Even though the current study uses total disclosure in English version annual reports as the dependent variable, it is likely that not all of the required disclosures of a country are necessarily in the reports. This comment does not apply to the United States and the United Kingdom, which are English-speaking countries.

Uncertainty avoidance represents general anxiety, a state of being uneasy or worried about what the future holds. Uncertainty is not the same as risk avoidance, which is fear of a specific object [Hofstede 1991]. Individuals in societies with a strong uncertainty avoidance ranking feel uncomfortable with ambiguity and thus support institutions defending conformity. There is a need for more certain, defined relationships; therefore, more closely-held businesses exist. Such societies are expected to have fewer owners and fewer outside suppliers of resources, thereby encouraging higher secrecy levels.

Participants in capital markets expect less secrecy, i.e., more information, from the companies in which they invest. This study assumes that uncertainty avoidance, with its varying levels of confidence in the rationality of the world, has had a significant impact on the development of business relationships and financial reporting throughout the world.

> H4 for UNCER(-): Enterprises domiciled in weak uncertainty avoidance countries are likely to disclose higher levels of investor-oriented information.

INDIV represents individualism and involves a self-orientation view rather than a collectivist view. With more independence of thought and action, there is expected to be less dependence on in-groups such as families, banks, and subsidiaries. Businesses in individualistic countries are willing to share information in order to obtain resources for business survival and growth. More required business disclosure that is investor-oriented is expected by the government, and more voluntary business disclosure is expected by resource providers.

Collectivist countries, on the other hand, form close relationships within small groups. Sharing of information tends to be more secretive and involves in-groups, e.g., families and banks. Collectivist countries are more likely to have developed banks as major capital sources, rather than capital markets where public information is readily sought and received.

> H5 for INDIV(+): Enterprises domiciled in individualistic countries are likely to disclose higher levels of investor-oriented information.

MASCU is the cultural dimension that represents the level of masculinity versus femininity in a society. Masculinity represents societal preference for achievement, assertiveness and material success, as opposed to femininity, with a preference for relationships and quality of life [Hofstede 1980]. Masculinity, as a cultural dimension, relates to a traditional preference for economic growth over conservatism. The more masculine societies are likely to have governments, businesses, and resource providers that encourage information sharing so that overall growth occurs.

> H6 for MASCU(+): Enterprises domiciled in countries exhibiting more masculinity are likely to disclose higher levels of investor-oriented information.

POWER represents power distance; it measures the extent to which a society accepts the unequal distribution of power in institutions and organizations. A large power distance score indicates less questioning of authority in general[20] and more centralization of political power. Large power distance countries are likely to have accepted aristocratic, political control of business organizations such as banks and professional accountancy bodies. Such a society is likely to be more secretive, where the citizens demand less institutional information.

In continental Europe, for example, the major financing of businesses occurs at the bank[21] level rather than in the capital markets. With centralized control over enterprises, banks can readily obtain the financial status of enterprises through private conversations and reports. Because large power distance countries are assumed to accept inequality in business and politics, there is likely to be less demand for public information about business enterprises.

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[20] Less questioning of authority indicates more secrecy.

[21] Major banks are ultimately controlled by the wealthy or by the government.

In societies exhibiting small power distance, the citizens are likely to request more information, e.g., financial information for investment decision-making. Accounting regulation is apt to be more participative, with constituents providing feedback and suggestions to regulatory bodies. Such a society is likely to be less secretive with institutional information because the citizens are not afraid to question higher authorities.

> H7 for POWER(-): Enterprises domiciled in small power distance countries are likely to disclose higher levels of investor-oriented information.

International Dependence Variables

A variation of the Enterprise Disclosure Model is examined next. When firms enter the international marketplace, cultural predilections can change. Firms may be confronted by competitive pressures culturally different from those in their home markets. This research examines the competitive pressure to increase investor-oriented disclosures in order to obtain international resources at reasonable costs. For firms to reduce the uncertainty about their products, about their credit-worthiness, and about their profitability, a mitigating step is to increase financial disclosure.

It is likely that enterprises with greater international exposure in product and capital markets will transcend the cultural forces that underlie their home country accounting requirements. For example, an internationally dependent German enterprise will appear more individualistic as it discloses more information typically found in individualistic countries. This is predicted because the German firm is competing for foreign resources with firms from high disclosure, individualistic countries.

This study examines several variables as potential measures of the level of international dependence: foreign employees, foreign sales, foreign subsidiaries, and size. The sample of companies is split in half by each of the foregoing variables, one at a time. The variables of the main model are utilized, except where the international dependence measure is an explanatory variable. For example, when foreign employees split the sample, then foreign employees is not included as an explanatory variable. Multiple regression analysis is used to measure the two split samples and the pooled sample. A Chow test determines whether there is a significant difference between the two split samples, i.e., between low versus high levels of international dependence.

Rationale for foreign employees and foreign sales as measures of international dependence is presented in a previous section. Following is the rationale for using foreign subsidiaries and total assets as measures of international dependence.

Enterprises with more foreign subsidiaries are likely to publish higher levels of investor-oriented accounting disclosures than expected in their home country, especially if their culture is more secretive. Foreign subsidiaries require foreign resources, which in turn are competitively priced. Higher disclosure in foreign markets is likely to reduce costs for the firm.

Enterprises with more assets are likely to participate in the international marketplace for international resources. Again, such enterprises are likely to disclose more information than their culture dictates in order to obtain competitive prices.

> H8 for INTERNATIONAL DEPENDENCE: Internationally dependent enterprises domiciled in more secretive countries are likely to act opposite of their culture in relation to levels of financial information disclosed.

Control Variable

Because several disclosure studies [e.g., Firth 1979; Chow and Wong-Boren 1987] show firm size to be positively correlated with level of accounting disclosure, this study adds firm size to the main model. Although larger companies may tend to enter the international marketplace, this size variable is added as a control variable, not a market force variable. Size is expected to correlate positively with disclosure.

Industry Indicator Variable

The sample of companies for the Enterprise Disclosure Model includes diverse industrial enterprises. Because some industries are more regulated or are more information-oriented than others, accounting disclosure behavior across industries is likely to vary. The Enterprise Disclosure Model is measured in two ways: 1) without industry dummy variables and 2) with a separate dummy variable for only the more dominant industries. The miscellaneous industries are grouped and allocated one dummy indicator. Although no specific predictions can be made, some of the industries are expected to be significantly related to the level of enterprise disclosure.

Correlated Omitted Variables

In the foregoing models, there are two variables that are omitted from but may be correlated with either the dependent or independent variables: inflation and cost of capital. The rationale for each variable and its omission is provided next.

Cost of capital, although theoretically linked to enterprise disclosure and empirically examined in case studies, is difficult to test in accounting disclosure models. First, an enterprise's real cost of capital is unknown to outsiders. Proxies such as the price-earnings ratio can be used, but might be misleading. Second, an enterprise's cost of capital is expected to evolve over time and would thus require an extended time-series study. The cost of capital is indirectly tested in the Enterprise Model via the capital sourcing variables.

Inflation can affect investment decisions and international balance of payments. High inflation rates benefit both foreign lenders and domestic investors. However, no direct relation of inflation to accounting disclosure is apparent at the enterprise level. Inflation's direct impact on international trade is mitigated by tariffs and quotas, different business cycles across countries, price elasticity variations across industries, etc. [Eiteman and Stonehill 1986]. The Enterprise Disclosure Model indirectly examines a proxy for trade: foreign sales.

The next chapter presents an overview of the methodologies of research design and data analysis.

UNCERTAINTY AVOIDANCE -- DISCLOSURE

HIGH UNCERTAINTY AVOIDANCE

➔ Uncomfortable with uncertainty and ambiguity

➔ Need for more certain, defined relationships in society

➔ More closely-held businesses that provide assurance in the acquisition of resources

➔ Fewer owners and fewer outside suppliers of resources

➔ More secretive sharing of information, therefore, less need for investor-oriented REQUIRED disclosures and less incentive for VOLUNTARY disclosure to the public

➔ LESS DISCLOSURE IN PUBLIC ANNUAL REPORTS

INDIVIDUALISM -- DISCLOSURE

HIGH INDIVIDUALISM

➔ Self-orientation view, therefore, *not* a collectivist society

➔ Independence in thought and action, therefore, *not* dependent on in-group (families, banking relationships, and subsidiaries)

➔ Businesses willing to share information in order to obtain resources at lower costs--for business survival and growth (More VOLUNTARY information)

➔ Society is open and responsive to business and community needs (REQUIRED disclosure is more investor-oriented)

➔ MORE DISCLOSURE IN PUBLIC ANNUAL REPORTS

Figure 3-4
Culture-Accounting Relationships

MASCULINITY -- DISCLOSURE[22]

HIGH MASCULINITY

- → Achievement, assertiveness, material success
- → Acquisition of resources for growth of government and businesses
- → More willing to share information in order to obtain resources at low costs
- → More REQUIRED disclosure for the country
- → More VOLUNTARY disclosure for business enterprises
- → MORE DISCLOSURE IN PUBLIC ANNUAL REPORTS

POWER DISTANCE -- DISCLOSURE

HIGH POWER DISTANCE

- → Unequal distribution of power in institutions and organizations
- → Less questioning of authority; people demand less information from powerful entities
- → National accounting systems (REQUIRED) tend to be more secretive
- → Enterprise accounting disclosures (VOLUNTARY) tend to be more secretive
- → LESS DISCLOSURE IN PUBLIC ANNUAL REPORTS

Figure 3-4--continued

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[22] The masculinity-disclosure relationship will be investigated with cultural interaction terms in a future study.

CHAPTER 4
RESEARCH DESIGN AND DATA ANALYSIS METHODS

Introduction

This section describes the research methods used to test the hypotheses of the Enterprise Disclosure Model. First, details of the research design are presented. Second, data analysis methods are briefly discussed.

Research Design

This section discusses sample selection criteria and special issues in variable measurement. Recall that the basic measures for the variables are explained in the model development section in chapter three.

Sample Selection Criteria

Three components of sample selection are discussed in detail: country selection, industry selection, and enterprise selection.

Country selection. For the Enterprise Disclosure Model, seven industrialized countries are selected based on cultural and economic criteria: France, Germany, Hong Kong, Japan, Norway, the United Kingdom, and the United States. Accounting systems have evolved over time and appear largely influenced by a country's culture and its institutions. In order to select a representative sample of culturally diverse countries, reference is made to Hofstede's [1991] matrices of cultural dimensions in Figure 4-1 at the end of the chapter. In the three diagrams that plot uncertainty avoidance with each of the other cultural dimensions, it is clear that the countries in the current study are scattered across each of the four quadrants. The seven sample countries are also dispersed across 6 of the 9 country clusters of Ronen and Shenkar [1985]. In addition, countries are selected based upon their global trade activity because a major portion of this study examines international dependence. International trade statistics are obtained from International Trade 89-90, issued by the General Agreement on Tariffs and Trade.[1]

Industry selection. Because of the many accounting and finance research caveats about industry being a differential factor in model design, this study encompasses primarily six manufacturing industries: chemicals, building construction, fabricated products, machinery, transportation equipment, and electronic equipment. These industries are selected because they comprise major imports and exports[2] in most of the sample countries. In addition, the average annual change in world imports of these products ranges from 7.8% to 18.7%,[3] thereby allowing for potential differences in enterprise foreign sales. The sample of companies contains additional types of firms so that results of the study will be more generalizable.

Enterprise selection. In order to examine a representative sample of enterprises, the following criteria are used for enterprise selection: size (large, medium, and small), company data provided by Global Vantage, forecast coverage provided by IBES[4] (but not required), extent of outstanding foreign debt, and listing status on stock exchanges. The first three criteria help to ensure that there is public information available about the enterprises. The last two criteria help to ensure that both local enterprises and international enterprises are selected.

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[1] Data availability for variable measurement enters into the selection criteria. Hence, countries such as the USSR and East Germany, although among the trade leaders, are excluded from this study.

[2] Building construction is typically not considered an import or an export.

[3] Statistics obtained from International Trade 89-90, 1990.

A letter and survey are sent to each of the 795 enterprises in the sample. The letter requests the English and home-language annual reports. The ten-question survey requests data about some of the independent variables of the model. Appendix B contains copies of the first and second request letters and the survey.

Special Issues Related to Variable Measurement

Special issues discussed in this section include: dependent variable sources and scoring methods, and foreign exchange translation.

Dependent variable. The source for investor-oriented disclosure practices, the dependent variable, is the English version of the annual report. In a study of 42 interlisted European companies, Archer and McLeay [1989] note that each company prepared an English version. English was predominantly the second language, with French a far second to English. Use of the English language version enables a view of financial reporting practices from an international perspective [Barrett 1976].

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[4] Institutional Brokers' Estimate System is an organization that provides earnings forecasts for over 1,000 international enterprises, along with US enterprises.

The use of annual reports in disclosure studies is common. The usefulness ranking of annual reports by investors continues to be high. Pike et al. [1993] investigate appraisal methods of UK and German investment analysts and find that the annual report is the second-ranked source of relevant information in Germany and the third-ranked source in Britain.

A few limitations may exist with utilization of a scoring method for the dependent variable:

1. Annual report information may have different degrees of significance to investors across countries because of investors' use of other information sources such as financial analysts and the business press.

2. The English version of the annual report may contain more, less, or the same information that appears in the domestic version. A question on the survey asks for the degree of difference between the domestic version and English version of the annual report.

3. There may be the problem of some items not pertaining to smaller enterprises and possibly reducing their total score inappropriately. To lessen this probability, the total enterprise disclosure points will be divided by the total disclosure points reasonably possible for each enterprise.

Foreign exchange translation. For all monetary measures not in US dollars, translation to US dollars is performed. For income statement items, the average annual exchange rate is employed. For balance sheet items, the end-of-year exchange rate is employed. Currency conversion rates are obtained from International Financial Statistics.

Data Analysis Methods

Hypothesis Tests

The hypotheses of the Enterprise Disclosure Model are measured in a cross-sectional multiple regression model. The ordinary least squares method is deemed appropriate because of the large sample size and because linear relationships are expected. A Chow Test is performed on reduced models to determine whether the level of international dependence of enterprises across countries affects the relationship between culture and investor-oriented disclosure practices. Two different disclosure levels of the dependent variable are examined: total disclosure and voluntary disclosure.

Diagnostic Tests

Tests for multicollinearity include principal component analysis, Pearson and Spearman correlations, and variance inflation factors. White's test for heteroscedasticity determines whether the random error vector has identical or different variances. The quartiles of the residuals and each independent variable are examined for a zero mean. Influence tests determine the outliers of each model; outliers are excluded and the modified sample results are compared to the original sample results to ascertain degree of outlier influence.

Replication Tests

To test the reliability of the disclosure index scores, the scores are used to replicate tests conducted by other researchers [Singhvi and Desai 1971; Firth 1979; McNally, Eng, and Hasseldine 1982; and Chow and Wong-Boren 1987]. Another reason for replications is to examine the reliability of the survey data that cannot be verified with annual report data. Four replication tests are conducted via multiple regression analysis, even though the prior studies may have used non-parametric tests. From the four disclosure studies, as many variables as possible are replicated with the current sample data.

The next chapter presents the results of the hypothesis tests, diagnostic tests, and replication tests.

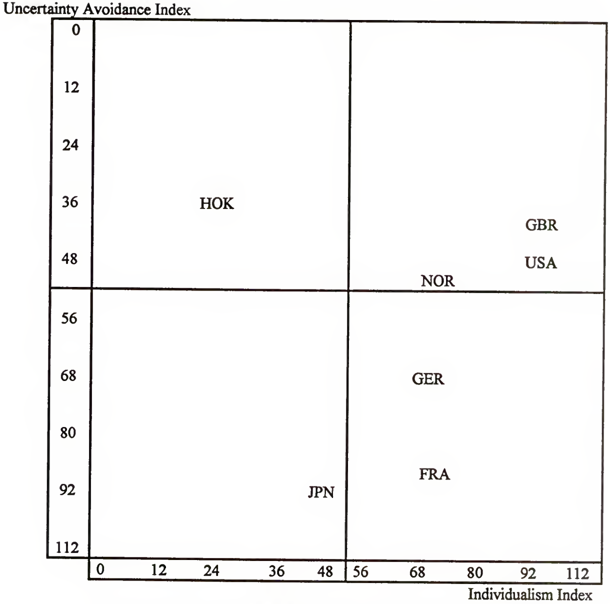

Figure 4-1
Interaction of Uncertainty Avoidance and Individualism
[Hofstede 1991]
Reprinted with permission of the publisher.

FRA = France
GER = Germany
HOK = Hong Kong
JPN = Japan
NOR = Norway
GBR = United Kingdom
USA = United States

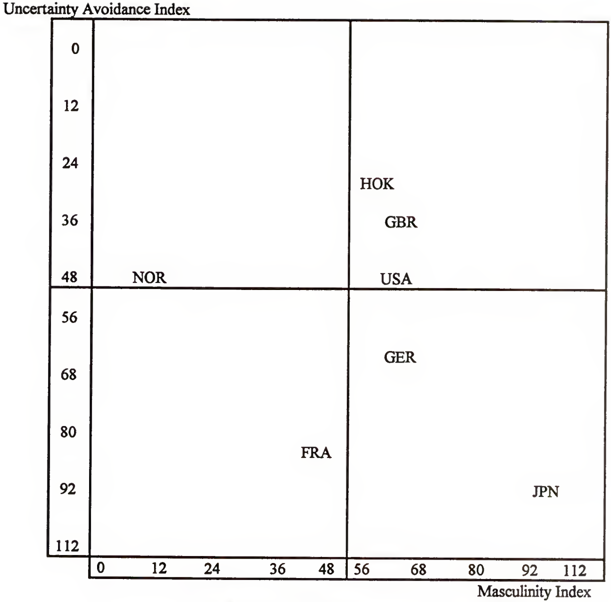

Figure 4-1--continued
Interaction of Uncertainty Avoidance and Masculinity
[Hofstede 1991]

FRA = France
GER = Germany
HOK = Hong Kong
JPN = Japan
NOR = Norway
GBR = United Kingdom
USA = United States

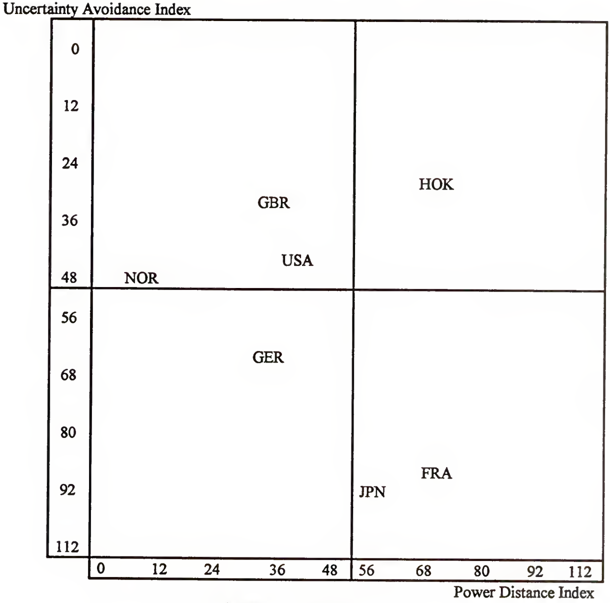

Figure 4-1--continued
Interaction of Uncertainty Avoidance and Power Distance
[Hofstede 1991]

FRA = France
GER = Germany
HOK = Hong Kong
JPN = Japan
NOR = Norway
GBR = United Kingdom
USA = United States

CHAPTER 5
RESEARCH RESULTS

Introduction

This chapter reports the results of the analyses proposed in Chapters Three and Four. First, the data collection results are presented, along with descriptive statistics of the dependent and independent variables for the total sample and for each country. Presented next are the results of tests of the research hypotheses. This is followed by discussions of country models, of other dependent variables tested, and of replications of prior disclosure studies.

Results of Data Collection

Table 5-1 summarizes the responses to the letters requesting annual reports from 795 enterprises across seven countries. There are 266 (response rate of 33%) useable English-language annual reports received. Thirty companies responded that no English version is prepared and thirty-seven letters were returned undeliverable, without an alternate address. Norway provided the least useable annual reports (16), while the United States provided the most reports with a count of 66.

There is a 21% response rate to the survey request for additional company information [see Appendix B for survey]. Of the 166 survey responses, 155 are useable in this study. Not all respondents completed the entire survey; there are several instances where questions are left blank or marked as not known or not available. Therefore, the sample sizes for the different disclosure models vary because of missing data. From the survey responses, it is clear that 167 of the 266 sample enterprises provided a word-for-word translation of the home language version of their annual reports. This means that 167 annual reports contain the disclosures required in the respective home country. The English-language annual reports and the completed surveys are the principal sources of the dependent and independent variables. Wherever possible, the survey data is verified against annual report information to ensure reliability.

Sample selection bias. The intent of this study is to examine the influences upon disclosures in English annual reports because English is the international language of business. With the use of only the English version of enterprises' annual reports, there may occur some selection bias. The descriptive statistics across the entire sample and across countries show wide variation in variable values and do not appear to show any problems of self-selecting companies that would heavily influence the statistical results. Further analysis follows.

The 795 companies (Table 5-1) to which the letter and survey were sent are companies *followed* by Compustat Global Vantage and the International Brokers' Estimate System. Although these companies are assumed to be somewhat international in nature, 30 companies (4%) responded that they do not produce English version financial statements and a few indicated that they have no public statements. These 30 companies represent 10% of the responding companies. Of the 30 companies, 21 are French or German; and 9 companies (30%) are small,[1] while 16 companies (53%) are medium-size in their respective countries.

The research sample is relatively similar to the unusable 30-company sample, but the research sample has a higher proportion of large companies. For the *responding* companies that provided English annual reports, a breakout of sales by small, medium, and large shows that medium companies dominate (45%), while small companies comprise the smallest portion (22%). This result appears reasonable because larger companies are likely to be more international in scope and more willing to respond to public requests for information.

---

[1] Size is measured by relative total sales within the home country.

The intent of this study, to obtain companies with varying levels of international dependence, appears to have been achieved. The need to omit the 30 companies with no English annual report is not expected to cause significant bias in this study.

The *nonrespondents* to the letter and survey are small, medium, and large, with small firms dominating. The small and medium firms are likely to have local or regional operations, with little need for *outside* resources. If more small companies would have provided English annual reports, the research results would probably have been even stronger. Such firms would, on the average, exhibit low need for foreign sales, foreign employees, and foreign capital and would have continued to act like their home culture in the tests of international dependence.

Having more non-responding small and medium firms in the sample perhaps could have improved the results of the total disclosure models because the culture-accounting relationship would be more evident. Additionally, if more companies from France, Germany, and Norway were included in the sample, the dominance of the UK and US companies[2] (with higher required disclosures) would be reduced (see Table 5-1). It might have been easier to show the change in disclosure behavior for internationally dependent firms.

In summary, there does not appear to be serious sample selection bias that favorably influences the research results. The results are generalizable at least across the seven countries examined. If a more diverse country sample and a more diverse enterprise size had been obtained, the results are likely to have been more powerful and more generalizable, especially for the international dependence tests and for the country model tests.

Appendix B contains a copy of the original letter, the second request letter, and the survey sent to the 795 companies. Because only 31 companies comprise the responses to the second request letter, no statistical analysis of first and second sample differences is deemed necessary. Appendix C lists the sample companies by country. All but seventeen of the sample companies are manufacturing entities. The seventeen non-manufacturers include companies in transportation, utilities, communications, and the hotel industry.

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[2] Even though the UK and US companies appear to dominate, they comprise only 43% of the total sample.

Descriptive Statistics

Descriptive statistics are presented in Table 5-2 for the total sample and in Table 5-3 for each of the seven countries.

Total Sample Statistics

The means and ranges of the disclosure index across the five scoring methods appear close. A principal component analysis of the five weighted scoring methods for total disclosure reveals moderate collinearity. In Pearson and Spearman correlation tests of pairwise combinations (e.g., DISCA and DISCB, DISCA and DISCC, etc.), the ten possible combinations of the weighted scores show high collinearity. The lowest correlation coefficient, 0.81, exists between DISCB and DISCD. Because DISCZ is a new scoring method that arbitrarily combines all the other methods' disclosure items, it is important to note that the correlation coefficients of DISCZ with the each of the other four methods range from 0.87 to 0.96. This level of correlation indicates reasonableness of the comprehensive DISCZ method.

In Table 5-2, the five unweighted[3] scores appear close in value to the weighted scores. Pearson correlation coefficients range from 0.79 to 0.99 for all combinations of the five weighted scores and the five unweighted scores. Similarly, Spearman correlation coefficients range from 0.76 to 0.99 in tests of the aforementioned combinations of weighted and unweighted scores. It appears that the disclosure scores weighted by financial analysts and other financial statement users are similar to the unweighted scores that weight each disclosure item equally. Further analysis is performed in the hypothesis testing section.

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[3] See Chapter 3 for an explanation of the weighted and unweighted scoring methods.

For the four cultural dimensions, the means and ranges vary. The variation provides evidence that the seven countries in the study are culturally diverse, as intended in the research design. The smallest range, 31 to 68, and smallest variation, 47, occur in the power distance dimension. The average size of the companies is US$6.6 billion, with a range from US$4.4 million to US$252 billion. The objective of the data gathering process, to obtain a wide variability on the size dimension, appears to have been achieved.

For the sample as a whole, Table 5-4 shows the Pearson correlation coefficients for the independent variables. The only high collinearity in practical terms is 0.82 and occurs between two measures of size--total assets and total sales. Hypothesis testing uses the natural log of total assets as the size control variable. Moderate collinearity exists between foreign sales and foreign employees (0.66) and between individualism and power distance (-0.68). The first relationship appears to be logically a consequence of foreign operations. The second relationship is discussed by Hofstede [1991] as a consequence of varying economic strata across countries. The current study includes countries of relatively similar economic strata, but nevertheless collinearity exists between individualism and power distance.

To ensure that no severe multicollinearity exists in the research data, the variance inflation factors (VIFs) are obtained for the original model and variations thereof. All VIFs are from the low one's to the low three's. No VIF is close to 5, the amount at which multicollinearity problems must be addressed [Maddala 1988]. A principal component analysis of the main model explanatory variables reveals a conditional index of 4, indicating low collinearity. From the foregoing tests, I am not concerned about making incorrect inferences from the model coefficients.

Country Statistics

In Table 5-3, descriptive statistics by country show, on the average, that the highest total disclosures are made by US firms, followed by UK firms.[4] These higher levels of financial disclosures are similar to the findings of prior disclosure studies. For the independent variables, there is a wide variation across countries. The dependent variables are discussed first.

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[4] Somewhat affecting the high total scores is the fact that the US and UK companies have their required disclosures in the English annual reports, since English is their home language.

Dependent variables. Unweighted disclosure scores (UNWTD) for each of the countries are not presented because they are similar to the total disclosure scores (DISC). Scores for voluntary disclosures (VOL), however, are presented in order to show the differences from the total disclosure scores (also see Figure 5-1). Table 5-3 shows that the average VOL scores in the United States are notably lower than the average DISC scores. This occurs because the deletion of a large amount of required items for US companies reduces the denominator of their VOL scores. Of the possible voluntary items in each country, the countries that appear to be disclosing more voluntary information are France and the United Kingdom. Their average VOL scores are in the 50s.

Independent variables. The means of the independent variables reveal some interesting information across countries. In *this* sample, Japan and the United States show low percentages of foreign sales to total sales. France has the highest percentage of foreign employees, while Japan has the lowest. Foreign debt and foreign equity are not easily comparable because of the low response rate to these survey questions and because values in the first three quartiles are zero. The debt ratio, on the average, is .34 in Hong Kong and .66 in Japan, while it is above .70 for Germany and Norway. Institutional ownership of the common stock is highest in the United States (.73) and lowest at .20 in Norway and .29 in Hong Kong. On the average, the largest companies in the sample are domiciled in the United States and in Japan; and the smallest companies are in the United Kingdom.[5]

Proxies for the theoretical constructs. For each country, the descriptive statistics of the four cultural proxies are provided in Table 5-3 and in Figure 5-1 below. The *cultural* proxies (uncertainty avoidance, individualism, masculinity, and power distance) appear to be capturing the theoretical constructs relating secrecy level of the seven countries to their disclosure behavior. Countries with strong individualism, weak uncertainty avoidance, small power distance, and strong masculinity are likely to have higher levels of financial disclosure. The raw data for the United Kingdom and the United States exhibit all four cultural relationships with disclosure.[6]

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[5] Refer to Table 5-3 for the minimum, maximum, mean, and standard deviation of each independent variable within each country.

COUNTRY	DISCA MEAN	UNCER (-)	INDIV (+)	MASCU (+)	POWER (-)	HIGH DISC	LOW DISC
France	61	86	71	43	68	2	2
Germany	56	65	67	68	35	3	1
Hong Kong	56	29	25	57	68	2	2
Japan	56	92	46	95	54	3	1
Norway	56	50	69	2	31	3	1
UK	67	35	89	68	35	3	0
US	70	46	91	62	40	4	0

Figure 5-1
Cultural Proxies for Secrecy in Relation to Disclosure

Germany has three cultural dimensions with values that would predict high disclosure scores, per this study. Germany's average disclosure score, though, is low at 55, in the seven-country range from 50 to 70. Uncertainty avoidance in Germany is high at 65 and may outweigh the other cultural proxies; as discussed earlier, high masculinity and *low* uncertainty avoidance are expected to result in high disclosure. Germany has high masculinity but also high uncertainty avoidance. France, Hong Kong, and Japan (secretive countries) each exhibit at least two cultural relationships with *low* disclosure, as predicted by theory.

Norway shows high individualism and low power distance, along with low masculinity. Although Norway's average disclosure score is moderate at 56, subsequent tests of means show that Norway belongs in the UK/US disclosure grouping of countries. When Norway is grouped with the United Kingdom and the United States, the means of all four cultural proxies are significantly different (p=.05) from the group means of France, Germany, Hong Kong, and Japan.

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[6] The United Kingdom and the United States have the highest average disclosure scores in this study.

The *market* proxies also appear to be capturing the theoretical constructs relating resource dependence and *secrecy* to total disclosure. A test of means, grouping Norway, the United Kingdom, and the United States against the four more secretive countries, results in significantly different means (p=.05) for institutional ownership (61% versus 49%) and for debt ratio (56% versus 64%). The less secretive countries show higher institutional ownership and smaller debt ratios (i.e., more equity ownership), which are hypothesized to encourage higher disclosure. The other two market forces, foreign sales and foreign employees, do not have different means for the two groupings of countries. This appears reasonable because all countries, whether secretive or transparent, are equally likely to need foreign markets for survival. What a country does to survive in the foreign marketplace (e.g., institutional ownership and debt financing) is one of the underlying issues of the current study.

The next section provides the results of the various statistical tests that help to evaluate the hypotheses relating market and cultural forces to financial disclosure.

Results of Hypothesis Testing

Introduction

This section discloses the results of simple regression and multiple regression tests. Unless otherwise indicated, the method of ordinary least squares is used for each model that follows. The F-test of each overall model results in a p-value of .0001 or better, unless otherwise noted in the following discussions. The t-tests related to each independent variable are one-tailed, since each hypothesis specifies a directional relationship. Only in the testing of industry significance is a two-tail t-test employed.

First, the results and limitations of the original model are discussed. Second, alternate proxies are substituted for the foreign capital variables; this alternate model is called the main model throughout the remainder of the study (discussed later). Third, the impact of the level of international dependence upon the culture-accounting relationship is presented. Fourth, the country effects of market forces on financial disclosure are examined. Fifth, alternate measures of the dependent variable are explored. Finally, the results of replications of prior disclosure studies are provided.

Results of Original Model

Table 5-5 presents the simple regressions of each independent variable upon DISCA, the disclosure scoring method of Adhikari and Tondkar [1992].[7] Similar results obtain for the other four disclosure methods, except as indicated below Table 5-5. Five of the independent variables (foreign sales, foreign employees, uncertainty avoidance, individualism, and power distance) of the Enterprise Disclosure Model are statistically significant at $p < .001$, while foreign debt, foreign equity, and masculinity are not significant.[8]

The results of pooled, cross-sectional multiple regression tests of the Enterprise Disclosure Model as originally hypothesized appear in Table 5-6. This model contains the first four variables as foreign market forces and the last four as cultural forces; all forces are expected to influence financial disclosure practices of business enterprises across the world. Foreign sales are positively and significantly related to annual report disclosure levels for all five scoring methods. Foreign employees are somewhat significant in the Barrett (DISCB) disclosure method only. The .66 correlation between foreign sales and foreign employees is likely the cause of one variable dominating the other in multiple regression testing.

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[7] Of the four disclosure indices from prior studies, the DISCA method is expected to best represent the total disclosures that investors seek because 1) the Adhikari & Tondkar disclosure rankings are most recent and 2) the rankings are based on the responses of analysts across the world.

[8] Gray [1988] comments that the directional relationship of masculinity to accounting disclosure is difficult to predict.

Neither public foreign debt nor public foreign equity is significant. Further analysis of the raw data for these two variables reveals an uneven distribution of data across quartiles, with the first three quartiles containing values of zero. As a result, both foreign public debt and foreign equity ownership are removed from the model during further testing. A later section examines alternate proxies for debt and equity.

Three of the cultural variables are significant and of the predicted sign. Individualism has a p-value of .001 across all five scoring methods, while uncertainty avoidance and masculinity have p-values mostly in the .05 range. Power distance is neither significant nor of the predicted sign. There are possible reasons for this power distance result: 1) power distance is theoretically similar to individualism because both cultural dimensions measure relations between people in a society, and 2) the -.68 correlation between power distance and individualism may cause one variable to be statistically dominant. Regression tests in which power distance is deleted, and then exchanged for individualism, show that each cultural variable is significant and of the predicted sign when the other variable is omitted.

The explanatory power across the five disclosure methods ranges from 34% to 42%, with the Adhikari and Tondkar (DISCA) method being the highest. White's test shows no heteroscedasticity problems.

Model with foreign market forces only. When cultural variables are deleted from the original model, the explanatory power of the reduced model ranges from 8% to 19%. In Table 5-7, the reduced model shows that foreign sales are significant only in the DISCA method. Foreign employees are now significant across all five scoring methods, with ranges from .01 to .10 for the p-values. Because the Pearson correlation coefficient of foreign sales and foreign employees is .66, one of the two variables may outweigh the other in the same model. As above, neither foreign debt nor foreign equity significantly relate to financial disclosure in the predicted direction.

Model with cultural forces only. When market forces are removed from the original model (Table 5-8), there remain significant relationships between culture and disclosure. The sample size increases to the full 266 companies because there are no missing variables. Because of the high collinearity between individualism and power distance, I use principal component analysis to explore the combined impact of cultural variables upon total disclosure. The resulting t-tests of the principal component estimated coefficients reveal that uncertainty avoidance and individualism are significant at p=.001 each and that masculinity and power distance are significant at p=.05 each. There remains a concern about the direction of the relationship of power distance with disclosure; it continues to be positive. A later section investigates this issue further in the testing of levels of international dependence of companies.

Results of Main Model

The originally hypothesized relationships of foreign public debt and foreign stock ownership encounter several problems in the original model: 1) most of the raw data for these variables is equal to zero in the first three quartiles, 2) the survey data provided by companies for these variables are unable to be verified, and 3) there are many missing values of public foreign debt and foreign stock ownership for the 266 sample companies. To remedy the foregoing problems with foreign capital variables, alternate proxies for foreign debt and foreign equity enter the revised disclosure model, which is called the main model (Table 5-9) for the remainder of this study.

Alternate proxies. Although this study attempts to explain investor-oriented disclosure behavior of enterprises in international markets, the environment is now expanded to include both local and international forces (combination forces). The international market forces are foreign sales and foreign employees. The combination market forces (alternate proxies for foreign debt and foreign equity) are debt ratio and institutional ownership of common stock, respectively. The combination forces represent the level of dependence upon total capital sourcing, both international and local.

DEBTRATIO, the alternate proxy for foreign public debt, is a company's total debt divided by its total assets. When a company holds high amounts of debt, it is more likely to share information privately with creditors. Foreign bank debt, like other private debt, is expected to discourage public dissemination of enterprise information, but this relationship could go either way. In addition to the debt ratio, the percentage of foreign bank debt is examined. If a positive link is found between total debt and foreign bank debt, there is further justification for the use of total debt as a proxy for private debt. Foreign bank debt is measured as book value of foreign bank debt divided by total assets.

> H9 for DEBTRATIO(-): Companies with lower debt ratios are likely to provide higher levels of investor-oriented financial information.

INSTITUTION, the alternate proxy for foreign equity financing, is the institutional ownership of the common stock of a company and is obtained via the enterprise surveys.[9] Institutions typically include banks, corporations, pension and mutual funds, etc. Such entities are likely to have more power over a company in regard to influencing higher disclosure levels. Institutions such as mutual fund management may encourage public disclosure of enterprises so that the public can determine the quality of the business enterprises in the fund. Disclosure of company quality can help to increase stock values and reduce the cost of capital. Within the institutional ownership variable, there may be some foreign ownership. Therefore, this market force is considered a combination force of local and international dimensions. I hypothesize the following relationship.

> H10 for INSTITUTION(+): Companies with greater institutional ownership of their common stock are likely to provide higher levels of investor-oriented financial information.

Control variable. Several prior disclosure studies show that size is positively related to financial disclosure levels, whether disclosure is required, voluntary, or total. The natural log of total assets represents size as a control variable in the newly created main model. Although size is not being tested directly as part of resource dependence theory, one can argue that larger companies are often more likely to expand into foreign markets. However, Table 5-4 shows that both foreign sales and foreign employees have very low correlations with size, whether measured by total assets or total sales. The Pearson correlation coefficients for various pairwise combinations of these variables range from .02 to .05, thereby indicating that larger companies do not necessarily expand abroad. However, the larger firms are followed by local and foreign financial analysts, who demand higher levels of financial disclosure.[10] Therefore, a positive relationship is hypothesized.

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[9] Some of the institutional ownership data from the surveys is corroborated in the annual reports.

> H11 for SIZE(+): Larger enterprises are more likely to provide higher levels of investor-oriented information.

Discussion of main model results. Table 5-9 shows that results of multiple regression analysis of the main model are relatively robust across the five disclosure scoring methods. Both foreign sales and institutional ownership are positively related to financial disclosure at $p = .05$ in three of the methods, and at $p=.10$ in the DISCZ method. This lower significance occurs because the comprehensive DISCZ method is the only one showing significance for foreign sales, foreign employees, and institutional ownership. The debt ratio is significantly and negatively related to disclosure in two of the models, Barrett (DISCB) and Zarzeski (DISCZ). The control variable, size, is significant at $p<.001$ for all five scoring methods.

Of the four cultural variables, uncertainty avoidance is negatively related and individualism is positively related to disclosure at a .001 p-value, except in the Singhvi and Desai (DISCD) method that shows slightly lower significance at $p<.01$. Masculinity is positively related to financial disclosure at a .05 or .10 p-value across the five dependent variables. Power distance is not found to be related to disclosure as predicted, probably because of the high correlation between power distance and individualism.

The explanatory power of the main model across five measures of the dependent variable ranges from 55% to 61%. The market forces and cultural forces explain at least 55% of the variation in annual report disclosures of enterprises pooled across seven countries. White's test for heteroscedasticity reveals no problems. Influence tests reveal seven to nine observations as outliers in each of the five scoring methods. When the outliers for each scoring method are excluded, the resulting models show overall F-values and independent variable coefficients and t-values similar to the models that included the outliers. These findings indicate that the few outliers do not change the model results. No further examination is deemed necessary. The results throughout the study are based upon the sample with outliers included.

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[10] In further discussions, the size variable is considered a combination market force because it includes local and international influences.

When foreign bank debt is added to the main model, it has a p-value of .15 in four of the models but the relationship with total disclosure is positive, rather than the predicted negative correlation. The Pearson correlation coefficient between foreign bank debt and debt ratio (.30) is positive, as predicted, but is a relatively low correlation. The attempt to connect foreign bank debt with a company's total debt is not successful.

Reduced main model with revised market forces. A multiple regression analysis is conducted with the alternate market forces and with the addition of the size variable, but without the cultural forces. Table 5-10 presents the results. Explanatory power of this reduced model ranges from 32% to 42%.

In this reduced model without cultural forces, foreign employees rather than foreign sales are significant. There is an interchange of significance between foreign employees and foreign sales, which have a .66 Pearson correlation coefficient.

In four of the five scoring methods of the reduced model, there is a p-value of at least .05 for foreign employees, institutional ownership, debt ratio, and size. The exception occurs in the DISCD method, where debt ratio is not significant. Because the debt ratio is not significant when culture is included in the model, it appears that culture may be proxying for level of enterprise debt. Country debt ratios do vary because emphasis on financial institutions differs across countries.

Main model with industry indicators. Most of the companies in this study are manufacturing in nature and mainly comprise six major industries: construction, chemicals, fabricated products, machinery, electrical equipment, and transportation equipment.

Additionally, there is a miscellaneous industry grouping. The seven industry groups necessitate a total of six indicator variables, with the miscellaneous group in the intercept term. Because there are varying degrees of general information disclosure across industries, the industry indicator variables added to the main model determine whether industry type has a differential effect on financial disclosure. No prediction can be made in regard to the sign of the estimated coefficients of the industry variables.

In Table 5-11, there are interesting results across the five scoring methods. The Barrett (DISCB) method and the Singhvi and Desai (DISCD) method show that the "named" industry categories (compared to the miscellaneous category) relate to financial disclosure variation for all but the construction industry. The size variable, uncertainty avoidance, and individualism remain highly significant at $p < .001$. However, the four market forces show little apparent evidence of correlation with financial disclosure and are evidently captured by the alternate industry categorization.

In all additional testing of the Enterprise Disclosure Model, the market forces rather than the industry variables are included. Market forces are theoretically related to financial disclosure, while industry is not theoretically based as an explanatory variable.

When the following sections do not have corresponding tables but are only discussed in the text, the section titles will note that the results are *not in tabular form.*

Effect of US and UK companies on the results *(not in tabular form)*. The main model is analyzed without the US and UK companies in order to determine whether they are driving the results of the main model. For the five scoring methods, none of the cultural variables are significant and only size is consistently significant ($p = .01$) across all five scoring methods. Foreign sales or foreign employees is significantly related to accounting disclosure in four of the methods. When a dummy variable representing the US and UK companies is added to the main model, similar results obtain. These results with culture appear reasonable because the United States and the United Kingdom have cultures quite different from the other five countries, thereby adding variation for the main model results in Table 5-9. When the sample is dichotomized with UK and US companies in one group and the other five countries in the second group, the Chow test shows no significant differences in the intercepts or in the slopes between the two groups.[11]

When the main model is analyzed solely without the United States firms, cultural significance exists. Uncertainty avoidance, individualism, and masculinity are associated with total disclosure at a .01 p-value, except in the DISCD method. Similar to other regressions of the Enterprise Disclosure Model, significance of .05 or better is present with the market forces (foreign sales, institutional ownership, and size). The inclusion of the United Kingdom allows for enough variation in culture so that the culture-accounting relationship is present. Similar to the previous Chow test, the United States versus the other six countries shows no significant differences in the intercepts or in the slopes.

When the main model is analyzed solely without the United Kingdom firms, the results are very similar to those in the preceding model that excludes the US firms. The same three cultural variables are significant at p-values less than .05 in all five scoring methods.[12] Of the market forces, either foreign sales or foreign employees relate to total disclosure, and either institutional ownership of stock or debt ratio relate to total disclosure. The foregoing p-values are less than .05, except in the DISCC and DISCZ scoring methods. As usual, firm size is significantly related to total disclosure at a .001 p-value. Similar to the previous Chow tests, the United Kingdom versus the other six countries shows no significant differences in the slopes and in the intercepts.

In summary, there is evidence that the UK and US firms are not driving the market forces-disclosure relationship, but they are important for the culture-disclosure relationship.

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[11] Note that only the market forces can be examined in the Chow test because country splits are the same as dichotomizing by cultural variables. If culture were in the model, biased estimates would result.

[12] The p-values of masculinity for the DISCA and DISCC methods are .10.

Voluntary disclosure and the main model. In order to determine whether the type of disclosure is a critical factor in the Enterprise Disclosure Model, voluntary disclosure is substituted for total disclosure. Theoretically, both market and cultural forces should relate to voluntary disclosure, although the market forces are expected to be stronger than culture. If an enterprise does business in the international marketplace, it should be willing to voluntarily disclose information about its quality in order to be competitive for resources. If an enterprise is internationally dependent, it may choose to be less secretive than its home culture. If this happens, then culture might be neutralized and not be significant at all, or in some cases, might relate to disclosure in the opposite direction than that hypothesized in the main model.

In Table 5-12, the results of the multiple regression analysis show that four market forces (foreign sales, foreign employees, institutional ownership, and size) are significantly related to voluntary disclosure, except in the DISCB method. However, the DISCB method is the only one that exhibits a significant and negative relationship between debt ratio and voluntary disclosure. In all but the DISCZ method, two cultural forces (uncertainty avoidance and individualism) remain significant and of the hypothesized sign. No cultural forces are significantly related to voluntary disclosure in the DISCZ method. It is possible that the comprehensiveness of the DISCZ scoring method encourages the expected lack of culture-accounting relationship when enterprises are more internationally dependent.

Caution must be taken in the interpretation of voluntary disclosure results (here and in later tests). Because the United States has the more required items deleted from the numerator and denominator of the disclosure scores, the US voluntary scores are lower than expected for a low secrecy country. Results of tests would likely be stronger if the United States voluntary disclosure scores were calculated so that their full effect could be included in the tests.

Results of International Dependence Models

Motivation. From the foregoing models, there is evidence that the level of an enterprise's dependence on the international marketplace has an influence on its accounting disclosure practices. The results of the foregoing models also show that cultural dimensions of a country influence the total disclosure practices[13] of enterprises pooled across seven countries. I now want to examine whether the cultural forces are different between high and low international firms. Because of the mixed results in the voluntary disclosure model above, it is not quite clear whether culturally-related disclosure practices change when enterprises are dependent on international markets. Another issue is whether the type of disclosure (total or voluntary) makes a difference. This section presents results of tests that address these two issues.

In order to test hypothesis eight which predicts that internationally dependent enterprises domiciled in secretive countries will act less like or opposite of their cultural dimensions in relation to financial disclosures, I split the total enterprise sample in half by the number of foreign subsidiaries of each enterprise. The enterprises having larger amounts of foreign subsidiaries are posited to have high international dependence. Such enterprises are expected to act like their home culture (if not so secretive) or contrary to their home culture (if secretive) in order to compete in the global marketplace. The enterprises with smaller amounts of foreign subsidiaries are posited to have low international dependence and are expected to act similar to their home culture. Also examined as alternate proxies for international dependence are foreign employees, foreign sales, and total assets.

Number of foreign subsidiaries. The dependent variable measure used in this first analysis of international dependence is the total disclosure score (as in the main model). Only firms for which the number of foreign subsidiaries is known are included in this test because high levels of foreign subsidiaries indicate high international dependence and low levels of foreign subsidiaries indicate low international dependence. The foreign employees variable is excluded from the model because it is moderately correlated with foreign sales. Foreign employees must also be excluded as an independent variable in the next model since it is the proxy for international dependence. The exclusion of foreign employees from each analysis increases comparability of the results.

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[13] The total disclosure practices are those provided in the English version of each enterprise's annual report. It is a fact that not all required disclosures of a country are necessarily in each enterprise's annual report prepared for English readers.

The Wald test is performed on the model with four market forces and four cultural forces in order to determine whether the cultural variables are statistically significant as a group, when the sample is split by number of foreign subsidiaries at the median.[14] The test examines whether the slopes of the two reduced models are different;[15] i.e., it examines whether disclosure behavior differs between high internationally dependent firms and low internationally dependent firms. The Wald test provides an examination of the significant differences between individual parameters because there is only one covariance matrix. This permits a comparison of any two or more variables and statistical inferences thereof.

Prior to the Wald test, a test of means is conducted to ensure that the use of foreign subsidiaries to split the sample by high and low international dependence does not automatically split the enterprises by culture. The Bonferroni tests of differences in means are applied to cultural variables in the high and low international reduced samples, split by number of foreign subsidiaries. Results show that the average uncertainty avoidance and the average power distance of high versus low international enterprises are *not* significantly different (p=.05). This result is encouraging because it indicates that cultural variation exists within each of the reduced models (high and low international). Because individualism and masculinity are shown to *be* significantly different between the high and low international split, the Wald test may have difficulty finding structural change in those cultural dimensions. If enterprises in the reduced models are also split by culture, then less variation may be found in the culture-accounting relationship.

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[14] Because of data availability in annual reports, not one US enterprise is in this sample. The foreign subsidiary variable exhibits relatively low correlation with each of the explanatory variables. The highest correlations of foreign subsidiaries in Table 5-4 are a .38 Pearson correlation coefficient with foreign employees, a .37 correlation with total sales, and a .42 correlation with total assets.

[15] This Wald test for the model with both market and cultural forces shows only that an overall difference exists between the high and low international firms, while this study hypothesizes *directional* changes in the cultural forces.

Table 5-13 provides the results of the Wald test, along with the significance of each coefficient. Disclosure scoring methods DISCA, DISCB, and DISCZ[16] show overall model significance (designated "All Variables") at p=.01. The Wald test significance is evidence of a difference in the slopes of the two reduced models. There is evidence that high international dependence influences a firm to disclose more information, thereby causing firms, on the average, to act contrary to their secretive culture.

In addition to the test on the overall model differences between high and low international dependence, a separate test of the differences in coefficients (Wald test) shows that the *group of cultural variables*, but *not* the market variables,[17] makes a difference between the low and high international firms. DISCA, DISCB, and DISCZ models result in a p-value of at least .01 for the change in relationship between disclosure and the four cultural variables as a *group*. In all three models, individualism and masculinity show that the disclosure-culture relationship worsens as international dependence becomes higher. The negative change is as predicted in hypothesis eight.

Finally, the Wald test is performed on *each* cultural variable in the two reduced models. The F-test compares the high versus low international dependence of firms to determine whether there is a different effect of each cultural variable on total disclosure. For example, in the DISCA method the F-test for the individualism-disclosure relationship shows that low versus high international dependence of business enterprises makes a difference. The low international enterprises act more secretive when they prepare their English annual report, while the high international enterprises do not. All scoring methods except DISCD provide evidence that international dependence affects the relationship of culture[18] and disclosure. The p-values of the F-tests range from .001 to .05 for the three significant cultural variables (individualism, uncertainty avoidance, and masculinity). Except for uncertainty avoidance,[19] Table 5-13 also shows that the change in the relationship of *each* cultural variable with disclosure is as hypothesized when firms are more internationally dependent. Even though power distance does not statistically show a change in the culture-disclosure relationship, the coefficient becomes more positive[20] for firms that are more internationally dependent. Therefore, even the power distance-disclosure relationship worsens as firms are more internationally dependent.

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[16] It is not obvious why the other two scoring methods, DISCC and DISCD, did not show similar results.

[17] Since the market forces are insignificant in this dichotomy, they will have no impact on the error sums of squares in the calculation of the culture-accounting structural changes.

In summary, the analysis of Table 5-13 explains that when international dependence increases, culture makes a lower contribution to disclosure behavior. When enterprises depend upon international resources, they tend to disclose information differently from the secretive nature of their home culture.

Market forces are likewise examined as a group and individually to determine whether the reduced models result in changes in slope coefficients. Neither the group nor any one market force[21] in any of the five scoring methods statistically shows evidence of changing its effect on disclosure when a firm is more highly international. This non-significance appears logical because the split by foreign subsidiaries has probably reduced the variation of each market force in each of the reduced models. For example, larger amounts of foreign subsidiaries are likely to be associated with higher foreign sales and larger firm size.

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[18] The F-test for power distance does not show that the coefficients differ as the level of international dependence differs. This could be due to the relatively high collinearity of power distance with individualism.

[19] When firms are more internationally dependent, uncertainty avoidance may become stronger, rather than weaker, in relation to disclosure because of the proxy (foreign subsidiaries) used to split the high international firms from the low ones. *In the sample,* for example, firms that have more foreign subsidiaries may be industry-types that disclose more information.

[20] A more positive relationship denotes a relationship that has worsened because power distance is hypothesized to have a negative relationship with disclosure.

[21] Only in DISCA and DISCZ does the size variable become more positively related to disclosure when firms are more internationally dependent.

The model is tested once again for the effect of international dependence upon disclosure, but with *voluntary* disclosure[22] as the dependent variable. There is no analysis in tabular form. While the market forces show no changes when low versus high international dependence enters the analysis, two of the cultural forces do change. The F-test shows that individualism and masculinity, in relation to voluntary disclosure, have different slopes when firms are more internationally dependent. The secretive firms that are considered very internationally dependent due to their number of foreign subsidiaries, appear to act opposite to their secretive culture when disclosing financial information.

Percentage of foreign employees. The next analysis utilizes the percentage of foreign employees as the proxy for international dependence level.[23] The more foreign employees in an enterprise, the more likely that the firm has foreign operations, foreign assets, and foreign capital--resources that might induce higher levels of financial disclosure. Using foreign employees for the split allows for a larger sample size than the split using foreign subsidiaries. As above, both total disclosure and voluntary disclosure are examined as dependent variables. Because culture somewhat influences country accounting standards, the required portion of disclosure in each annual report may be driving the results of the various models.

When *total* disclosure is the dependent variable and percentage of foreign employees is the proxy for level of international dependence, the Wald tests show no significance overall

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[22] Voluntary disclosure is measured as follows: 1) all disclosure items that are disclosed by 90% or more of the enterprises in a particular country are deemed "required" and are deleted, 2) the numerator is now comprised of the voluntary items disclosed by a firm, and 3) the denominator is now the total possible voluntary items that a firm can have in a particular country. The exclusion of required items may help to make the disclosure scores more comparable across countries, in light of the fact that the United States and the United Kingdom have high required disclosures and both countries have English as their native language.

[23] Compared with the foreign subsidiaries proxy, the foreign employees proxy for international dependence produces a more even distribution of companies from each country.

(*not in tabular form),* no significant cultural groupings, and no significant individual variables. Two factors may be causing these results: 1) because foreign employees and foreign sales are correlated at .66, the split by foreign employees may have reduced the variation of the independent variables, and 2) the inclusion of many US and UK companies in the model may be skewing the results. Many US and UK companies have small amounts of foreign employees (low international dependence) but high levels of disclosure because of high required disclosures.

The other dependent variable measure tested for this model is voluntary disclosure. Table 5-14 provides the results of the Wald test, along with the significance of each parameter estimate. Disclosure scoring methods DISCA and DISCZ have overall significance at p=.01 each. This means that there *is* structural change of *all variables* grouped together between the low and the high international firms. However, the change in directional relationship cannot be ascertained because some variable relationships become more significant while others become less significant.

Cultural dimensions *grouped* together show a significant change in relationship with disclosure when firms are more internationally dependent (p<.01) for the DISCA and DISCZ methods. Two cultural dimensions (masculinity and power distance) are each significant in the low internationally dependent enterprises and insignificant or less significant in the high internationally dependent enterprises, as predicted.

The test for differences in coefficients for *each* of the cultural variables shows at least a .05 p-value for uncertainty avoidance, individualism, and power distance.[24] Individualism, however, does not change as predicted; instead, the individualism-disclosure relationship becomes more positive. This result may be due to the manner in which the total sample is split by foreign employees. The Bonferroni tests of differences in means show that individualism is the only cultural variable that is significantly different between the high and low international dependence models. The low international firms act as expected and show no individualism-disclosure relationship because there is little variation of individualism within that sample of companies. However, the high international firms must have more variation of individualism because a positive relationship with disclosure exists in that reduced model. It appears logical that more of the high individual firms would be in the high international sample and the Bonferroni test indicates that a preponderance of high individualistic firms are there. This could account for the positive relationship between individualism and disclosure in the more highly international firms.

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[24] Even though masculinity does not show a statistically significant change between the high and low international firms, the coefficient becomes less positive in relation to disclosure, as firms are more internationally dependent.

Market forces *grouped* together show little change in slope coefficients between the high and low international firms. In the test of *individual* market variables, only the foreign sales show significant structural change. As firms are more internationally dependent, their foreign sales are more strongly related to their voluntary disclosure practices, as expected.

In summary, using foreign employees as the proxy for level of international dependence is effective in testing whether culture-disclosure relationships change when firms are more dependent upon international resources. As with foreign subsidiaries for the international proxy, samples with more internationally dependent firms exhibit disclosure behavior different from the secretive nature of their home culture.

Alternate model for the foregoing two tests. An alternate analysis is performed to determine the effect when foreign sales is excluded in the foregoing two models as an independent variable. This is done because splitting the sample by an international variable (foreign subsidiaries) reduces the variation of the foreign sales variable across the two split models. By removing all international variables from the regression, we now focus on the cultural variables of interest. Results of the split *by foreign subsidiaries* show little difference from the model containing foreign sales. However, the results of the split *by foreign employees* shows stronger results in the DISCA and DISCZ scoring methods. All cultural variables except individualism show a lessened relationship with disclosure when firms are more internationally dependent. This is evidence that disclosure behavior related to culture can change if there are economic incentives present.

Other proxies for international dependence *(not in tabular form)*. When relative *foreign sales* proxies for international dependence, it is necessary to replace it with foreign employees as an explanatory variable. The Enterprise Disclosure Model still examines four market forces and four cultural forces. As with the split by foreign employees, the *total* disclosure model *does not* show significant effect of the level of international dependence upon the culture-disclosure relationship. The *voluntary* disclosure model *does* show that cultural behavior related to financial disclosure is different for firms with higher levels of international dependence. The Wald test for overall differences between low and high international dependence firms results in a .01 p-value for the DISCA and DISCZ methods. Likewise, the models using those same two scoring methods show that uncertainty avoidance, individualism, and power distance are the cultural dimensions that are significantly[25] less correlated with disclosure as firms partake in international business. Masculinity may not be significant because the Bonferroni tests show that the means of masculinity are significantly different between the low and high international split of companies. This causes less variation of masculinity within each of the reduced models. There are no changes in market force-disclosure relationships when firms are more internationally dependent.

When *total assets* are used to split the sample into low and high international dependence levels, there are no significant findings for either the total disclosure or voluntary disclosure models. This may result from the manner in which total assets splits the sample: the Bonferroni test shows that the means of the four cultural variables are different between the low and the high internationally dependent models. Less variation within each reduced model is likely to mitigate relationships with disclosure.

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[25] Significance levels for each cultural variable are mostly .01, except for uncertainty avoidance that has a .06 and a .09 p-value for the two methods that show consistent results.

To determine whether the overall variation in enterprise size across countries may be the cause of non-significance, the total asset split is performed one again, but differently. Larger companies *in each country* are included in the high international dependence group and vice versa for the smaller companies. The Wald test still shows no effect of international dependence on the culture-disclosure relationship when firm size is the international proxy. No further investigation of total assets is deemed appropriate.

In summary, there is evidence that high internationally dependent enterprises domiciled in secretive countries, on the average, have the tendency to act different from their cultural traits related to financial disclosure. The low internationally dependent enterprises domiciled in secretive countries, on the average, continue to behave like their culture in regard to levels of financial disclosure. Voluntary disclosure, rather than total disclosure, is theoretically more likely to relate to culture changes when firms enter the international marketplace. The required portion of total disclosure is unlikely to be modified by outside forces. The voluntary portion of total disclosure, on the other hand, is susceptible to variation when outside forces such as international resource needs influence a business firm. Empirical evidence in this study shows that voluntary disclosure correlates differently with cultural forces across three different international splits (foreign subsidiaries[26], foreign employees, and foreign sales) of the sample. When firms have alliances with outside forces, i.e., international markets, they tend to disclose information in a manner different from their home culture.

Results of Country Models

Country models are examined to determine whether the country market forces[27] are driving *total* disclosure levels in English version annual reports. The multiple regression testing shows in Table 5-15 that firm size is significant and positively related to disclosure in all countries except Germany and Hong Kong. Japan is the only country in which the debt ratio is negatively related to disclosure, with .01 to .10 p-values across the five scoring methods. In Norway and in the United Kingdom, higher levels of institutional ownership of stock are significantly related to higher levels of disclosure (p-values ranging from .01 to .10).

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[26] When foreign subsidiaries is the proxy for international dependence, both the total disclosure and the voluntary disclosure models show significant results. This is probably due to the fact that there are no US firms in the sample, thereby not skewing the results with the high required disclosure levels of the United States firms.

[27] Cultural forces cannot be tested by country because the companies in each country have the same numeric values for each cultural dimension.

In the United Kingdom and the United States, higher levels of foreign sales (except in the DISCB method) relate to higher disclosure. Since both countries have relatively high required disclosures, the foreign sales-disclosure relationship provides evidence that international dependence encourages higher company disclosure. The .01 significance level in the United States is especially noteworthy because its average foreign sales is low at 28%.

When the country models are analyzed with *voluntary* disclosure as the dependent variable *(not in tabular form)*, significant findings are somewhat similar to those of the country models with total disclosure. France, Germany, and Hong Kong models have no significance overall and no explanatory variables with a p-value less than .05. Two variables in the Japan model are significantly related to voluntary disclosure across the five scoring methods. Debt ratio has p-values ranging from .01 to .10 and firm size has a .01 p-value with all the methods. In both Norway and the United Kingdom, institutional ownership and firm size are significant and positively related to voluntary disclosure in four of the scoring methods. In the United States model, only three of the scoring methods result in significant relationships for foreign sales and firm size and significance levels are lower overall.

In summary, the results of the country models show different explanatory variables that drive total disclosure and voluntary disclosure in the seven countries. It appears that in some of the countries (especially Norway, the United Kingdom, and the United States), the market forces are strong enough to influence business enterprise disclosure behavior, exclusive of cultural forces.[28]

Alternate Scoring Method of the Dependent Variable--Unweighted Measures *(not in tabular form)*

In this section, unweighted scores are used to determine whether weighting schemes are necessary for the measurement of the dependent variable. In all of the foregoing models, the dependent variable, whether total or voluntary disclosure, is measured with weighted disclosure items. The weights vary across the five scoring methods because the researchers used various user groups and various prior studies to develop their respective weighting schemes.

It is deemed necessary to determine whether the weighting schemes are important to this disclosure study. As disclosure studies are performed, there is on-going concern about the measurement of a company's disclosure score. Concerns about various weighted measures include: 1) What user groups influenced the preferences embodied in the weights? 2) In what countries do the users reside? 3) How comparable are user preferences across countries? and 4) Are the weighted measures up to date?

To analyze unweighted scores, I measure each enterprise's disclosure score via the five scoring measures, but allocate equal weighting[29] for each disclosure item. These unweighted scores are then applied to the main model and to the main model with industry indicators. Pearson correlation coefficients for DISCA and UNWTDA,[30] for DISCB and UNWTDB, etc., ranging from .96 to .99, are extremely high. These close relationships provide an indication that regression models using the unweighted dependent variable may show similar results to models using the weighted dependent variable.

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[28] It is noted that Norway, the United Kingdom, and the United States possess cultural characteristics that represent less secrecy.

[29] Equal weighting is accomplished by allocating one point to each disclosure item that a company has in its annual report.

[30] UNWTDA refers to the unweighted disclosure score applying to Adhikari and Tondkar's scoring method.

The regression results for the unweighted main model show slight differences from the results of the weighted main model. The significance level of specific parameter estimates changes the most in the DISCA scoring method in which foreign sales and institutional ownership become more significant and masculinity becomes insignificant in the unweighted disclosure model. There are no changes in the level of parameter significance in the Choi method and only one downward change of parameter significance for each of the other three scoring methods.

The regression results for the main model with industry indicators show mixed differences in parameter significance levels between the weighted and unweighted models. Some variables become more significant and some, less significant. The largest significant differences occur for the industry categories in the DISCB and DISCZ methods. In the DISCB method, four of the industry parameters are less significant in the unweighted method. In the DISCZ method, all six of the industry parameters are more significant in the unweighted method.

To summarize, the foregoing results show little need for the use of weighted disclosure items. Adhikari and Tondkar [1992] find similar results in their study of required disclosures across countries. The minimal differences found between weighted and unweighted scores are likely due to the weighted methods having small ranges, from one to four. Most items that are disclosed appear to be in the 2 to 3.5 range, thereby reducing variation even further.

Tests of Correlated Omitted Variables

In order to test alternative explanations for this study's findings, information from two prior accounting classification studies is used: Gray, Campbell, and Shaw [1984] and Nobes [1984]. If these classification studies contain variables that are correlated, but omitted from the current study, then the analysis would contain problems. The following tests show that the these alternative explanations are *not* correlated omitted variables.

First, the degree of government control versus accounting self-regulation in a country is examined. It is posited that countries with more self-regulation will have higher levels of annual report disclosure. France, Germany, and Japan are government controlled and Hong Kong, the United Kingdom, and the United States are self-regulated [Gray, Campbell, and Shaw 1984]. The Bonferroni test of means shows significant differences (p=.05) between the two groupings for institutional ownership of stock, debt ratio, size, all cultural variables, and all of the total disclosure scores. The Wald test to determine differences in intercepts and slopes, however, shows a difference only for the debt ratio. This is an interesting finding because the level of debt financing is expected to affect the secretiveness of a country's information system.

Second, whether a country's financial accounting system is similar or not to its tax accounting system is examined. Countries with similar systems are hypothesized to have less total disclosure due to lack of flexibility in the accounting system. Results show that Japan and Germany [Gray, Campbell, and Shaw 1984] have different means (p=.05) than France, Hong Kong, the United Kingdom, and the United States for the following variables: institutional ownership of stock, debt ratio, size, foreign employees, all cultural variables, all total and voluntary disclosure scores. No differences, however, are found for the intercepts or slopes when a pooled cross-sectional regression groups the countries as indicated above.

Third, the major financing mechanism of a country is examined. France, Germany, and Japan use higher levels of bank financing, while the United Kingdom and the United States use higher levels of capital market financing [Nobes 1984]. Since bank financing implies conservatism and secrecy, countries with more bank financing are posited to have lower investor-oriented disclosure levels. Results of means testing show that there are significant differences (p=.05) for the following variables: institutional ownership, debt ratio, size, all cultural variables, all total and voluntary disclosure scores. No differences are found in the intercepts or in the slopes when the sample is divided by Nobes' country groupings.

In summary, means tests of the foregoing alternative explanations *do* show a relationship between disclosure and each alternative hypothesis. However, when the variables are examined in a pooled cross-sectional regression with the various country groupings, generally the results indicate that these three alternative explanations can be ruled out as causes of this study's findings.[31] It appears that the cultural variables, rather than these alternative explanations, are proxying well for country differences.

Replications of Prior Disclosure Studies

Replications of four prior disclosure studies are performed to determine whether the data in the current study are reliable and show similar results. Three *voluntary* disclosure studies [Chow and Wong-Boren, 1987; McNally et al., 1982; Firth, 1979] and one *total* disclosure study [Singhvi and Desai, 1971] are partially replicated. Each of these studies includes companies from only one country, and therefore, cultural variables are irrelevant.

The replications use the independent variables that are readily available in the current study's annual reports. The replication results presented here include either total disclosure or voluntary disclosure, because the original researcher(s) tested only one type of disclosure.[32] All replications are tested by the ordinary least squares method, even if the researchers may have used non-parametric tests. Results of the simple regression tests for the DISCA disclosure scoring method are summarized in Table 5-16. Results of multiple regression tests using DISCA are compared to the original research results in Table 5-17. The other four disclosure scoring methods show relatively similar results.

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[31] It is interesting to note that the means of the four cultural variables are significantly different for each of the alternative explanations. This corroborates the cultural theory linking professionalism/statutory control and flexibility/uniformity and optimism/conservatism to accounting disclosure.

[32] As an additional test of the usefulness of total disclosure in English version annual reports, I tested each prior disclosure model with both total disclosure and voluntary disclosure. Results provide strong evidence that the explanatory variables are more correlated with total disclosure than with voluntary disclosure.

In all four replications, more of the "market forces" variables in the multi-country model are significantly related to total disclosure than in the original one-country models. Variables with .001 significance are size of firm and size of audit firm. Variables with .01 to .05 significance are fixed assets divided by total assets, profit margin, and some industry indicators. The replication results are as good as or better than the results of the original researchers in the attempt to explain influences upon accounting disclosure practices. These results give further credence to the findings in the current study.

Conclusion of Research Analysis

The predictions regarding the influence of cultural and market forces on total disclosure in English version annual reports are strongly supported. The secrecy level of an enterprise's home culture relates to disclosure, as does the enterprise's dependence on resources.

The second important finding involves the change in culture that occurs when an enterprise operates internationally. This study provides empirical evidence that the culture-disclosure relationship *changes* when a firm is more dependent upon international resources. Internationally dependent firms tend to disclose information in a manner that is not congruent with the secrecy level of their home country.

Table 5-1
Results of Research Data Collection
Enterprise Disclosure Model

COUNTRY	COMPANIES	USEABLE ANNUAL REPORTS	%	UNDELIVERABLE REQUESTS FOR COMPANY DATA	NO ENGLISH ANNUAL REPORT
France	110	31	28%	6	10
Germany	109	29	27%	1	12
Hong Kong	120	29	24%	13	0
Japan	109	46	42%	1	2
Norway	114	16	14%	14	6
United Kingdom	118	49	42%	0	0
United States	115	66	57%	2	0
TOTAL	795	266	33%	37	30

Table 5-2
Descriptive Statistics--Total Sample
Enterprise Disclosure Model

VARIABLE	N	MIN	MAX	MEAN	STD DEV
Dependent					
DISC B	266	9%	89%	61	14
DISC B	266	0%	91%	58	16
DISC C	266	0%	83%	60	12
DISC D	266	5%	85%	62	11
DISC Z	266	0%	79%	58	11
UNWTD B	266	0%	88%	58	14
UNWTD B	266	0%	90%	58	16
UNWTD C	266	0%	83%	61	14
UNWTD D	266	11%	88%	62	12
UNWTD Z	266	5%	78%	57	10
Independent					
FSALES	257	0%	100%	39	29
FEMPLOYEE	173	0%	92%	28	24
FEQUITY	110	0%	90%	39	15
FDEBT	145	0%	100%	13	29
DEBT RATIO	266	2%	171%	56	22
INSTITUTIONS	146	0%	96%	56	26
FSUBNUM	144	0	157	27	29
UNCER	266	35	92	57	22
INDIV	266	46	91	77	17
POWER	266	31	68	47	13
MASCU	266	8	95	63	20
ASSETS (US $)	265	4.4 mil.	252 bil.	6.6 bil.	21.6
SALES (US $)	265	900,000	90 bil.	5.3 bil.	12.6
LOGASSETS	265	1.48	12.44	7.03	1.89
LOGSALES	264	2.06	11.39	6.97	1.87

Note: Descriptions of variables are provided in Table 5-3.

Table 5-3
Descriptive Statistics--By Country
Enterprise Disclosure Model

COUNTRY	FRANCE					
VARIABLE	MEASURE	N	MIN	MAX	MEAN	STD DE
Dependent	*Total Items Disclosed/ Disclosed Items Possible*					
DISCA	Adhikari & Tondkar (A&T)	31	34	89	61	12.7
DISCB	Barrett (B)	31	21	76	56	13.6
DISCC	Choi (C)	31	26	79	60	11.3
DISCD	Singhvi & Desai (S&D)	31	29	79	62	13.6
DISCZ	Zarzeski (Z)	31	26	79	57	11.3
	Voluntary Items Disclosed/ Voluntary Items Possible					
VOLA	"Voluntary Disclosure" (A&T)	31	29	87	55	14.2
VOLB	"Voluntary Disclosure" (B)	31	22	79	55	14.2
VOLC	"Voluntary Disclosure" (C)	31	18	78	53	13.6
VOLD	"Voluntary Disclosure" (S&D)	31	29	75	52	13.5
VOLZ	"Voluntary Disclosure" (Z)	31	23	79	53	13.1
Independent						
FSALES	Foreign Sales/Total Sales	31	12	91	55	20.5
FEMPLOYEE	Foreign Employees/Total Employees	17	33	79	48	12.1
FEQUITY	Percentage of Foreign Ownership	6	0	90	25	33.8
FDEBT	Foreign Public Debt/Total Public Debt	10	0	61	15	24.6
DEBT RATIO	Total Debt/Total Assets	31	.36	.93	.65	.15
INSTITUTIONS	Percentage of Common Stock Owned by Institutions	14	18	83	51.1	22.5
FSUBNUM	Number of Foreign Subsidiaries	30	2	157	56	39.5
UNCER	Uncertainty Avoidance	31	86	86	86	0
INDIV	Individualism-Collectivism	31	71	71	71	0
POWER	Power Distance	31	68	68	68	0
MASCU	Masculinity-Femininity	31	43	43	43	0
ASSETS (Mil.US$)	Total Assets	31	84	44311	5306	8838
SALES (Mil.US$)	Total Sales	31	34	30601	4387	6088
LOGASSETS	Log of Total Assets	31	4.43	10.7	7.72	1.35
LOGSALES	Log of Total Sales	31	3.53	10.3	7.67	1.34

Table 5-3--continued

COUNTRY	GERMANY					
VARIABLE	MEASURE	N	MIN	MAX	MEAN	STD DE
Dependent	*Total Items Disclosed/ Disclosed Items Possible*					
DISCA	Adhikari & Tondkar (A&T)	29	24	80	55	11.6
DISCB	Barrett (B)	29	16	79	48	12.9
DISCC	Choi (C)	29	28	76	57	9.9
DISCD	Singhvi & Desai (S&D)	29	30	79	63	10.8
DISCZ	Zarzeski (Z)	29	23	72	57	9.9
	Voluntary Items Disclosed/ Voluntary Items Possible					
VOLA	"Voluntary Disclosure" (A&T)	29	13	76	39	12
VOLB	"Voluntary Disclosure" (B)	29	7	77	31	14
VOLC	"Voluntary Disclosure" (C)	29	12	76	41	12
VOLD	"Voluntary Disclosure" (S&D)	29	18	69	41	12
VOLZ	"Voluntary Disclosure" (Z)	29	9	67	36	11
Independent						
FSALES	Foreign Sales/Total Sales	29	7	75	49	17.1
FEMPLOYEE	Foreign Employees/Total Employees	20	1	55	26	14.4
FEQUITY	Percentage of Foreign Ownership	8	9	77	35	23.4
FDEBT	Foreign Public Debt/Total Public Debt	15	0	100	26	41.2
DEBT RATIO	Total Debt/Total Assets	29	.43	.93	.71	.13
INSTITUTIONS	Percentage of Common Stock Owned by Institutions	10	20	96	45	26.7
FSUBNUM	Number of Foreign Subsidiaries	25	2	62	21.3	16.2
UNCER	Uncertainty Avoidance	29	65	65	65	0
INDIV	Individualism-Collectivism	29	67	67	67	0
POWER	Power Distance	29	35	35	35	0
MASCU	Masculinity-Femininity	29	66	66	66	0
ASSETS (Mil.US$)	Total Assets	29	55	53283	8357	14865
SALES (Mil.US$)	Total Sales	29	97	63074	9933	16538
LOGASSETS	Log of Total Assets	29	4.01	10.9	7.5	1.8
LOGSALES	Log of Total Sales	29	4.6	11.0	7.8	1.7

Table 5-3--continued

COUNTRY	HONG KONG					
VARIABLE	MEASURE	N	MIN	MAX	MEAN	STD DE
Dependent	*Total Items Disclosed/ Disclosed Items Possible*					
DISCA	Adhikari & Tondkar (A&T)	29	42	69	56	7.2
DISCB	Barrett (B)	29	40	69	52	7.9
DISCC	Choi (C)	29	41	65	53	6.7
DISCD	Singhvi & Desai (S&D)	29	38	70	56	8.6
DISCZ	Zarzeski (Z)	29	42	62	53	5.8
	Voluntary Items Disclosed/ Voluntary Items Possible					
VOLA	"Voluntary Disclosure" (A&T)	29	22	55	36	8
VOLB	"Voluntary Disclosure" (B)	29	20	62	42	12
VOLC	"Voluntary Disclosure" (C)	29	16	56	35	11
VOLD	"Voluntary Disclosure" (S&D)	29	0	63	33	12
VOLZ	"Voluntary Disclosure" (Z)	29	20	53	36	8
Independent						
FSALES	Foreign Sales/Total Sales	29	0	98	36	37.8
EMPLOYEE	Foreign Employees/Total Employees	17	0	92	33	37.4
FEQUITY	Percentage of Foreign Ownership	8	0	22	5.6	7.6
FDEBT	Foreign Public Debt/Total Public Debt	14	0	100	7	26.7
DEBT RATIO	Total Debt/Total Assets	29	.02	.66	.34	.16
INSTITUTIONS	Percentage of Common Stock Owned by Institutions	10	0	62	29	22.4
FSUBNUM	Number of Foreign Subsidiaries	25	0	70	11	14.9
UNCER	Uncertainty Avoidance	29	29	29	29	0
INDIV	Individualism-Collectivism	29	25	25	25	0
POWER	Power Distance	29	68	68	68	0
MASCU	Masculinity-Femininity	29	57	57	57	0
ASSETS (Mil.US$)	Total Assets	29	23	10461	1561	2411
SALES (Mil.US$)	Total Sales	29	19	5038	769	1231
LOGASSETS	Log of Total Assets	29	3.2	9.3	5.9	1.9
LOGSALES	Log of Total Sales	29	2.9	8.5	5.5	1.5

Table 5-3--continued

COUNTRY	JAPAN					
VARIABLE	MEASURE	N	MIN	MAX	MEAN	STD DE
Dependent	*Total Items Disclosed/ Disclosed Items Possible*					
DISCA	Adhikari & Tondkar (A&T)	46	0	75	50	15
DISCB	Barrett (B)	46	0	70	49	17
DISCC	Choi (C)	46	5	70	52	17
DISCD	Singhvi & Desai (S&D)	46	5	70	57	14
DISCZ	Zarzeski (Z)	46	0	72	52	13
	Voluntary Items Disclosed/ Voluntary Items Possible					
VOLA	"Voluntary Disclosure" (A&T)	46	5	68	35	14
VOLB	"Voluntary Disclosure" (B)	46	3	78	41	14
VOLC	"Voluntary Disclosure" (C)	46	0	81	42	15
VOLD	"Voluntary Disclosure" (S&D)	46	5	68	41	14
VOLZ	"Voluntary Disclosure" (Z)	46	0	66	38	13
Independent						
FSALES	Foreign Sales/Total Sales	40	0	74	26	20.9
EMPLOYEE	Foreign Employees/Total Employees	28	0	80	14	21.6
FEQUITY	Percentage of Foreign Ownership	32	0	39	8	9.3
FDEBT	Foreign Public Debt/Total Public Debt	33	0	100	24	35.5
DEBT RATIO	Total Debt/Total Assets	45	.18	.95	.66	.17
INSTITUTIONS	Percentage of Common Stock Owned by Institutions	29	16	87	57	21.6
FSUBNUM	Number of Foreign Subsidiaries	32	0	118	22.9	26.5
UNCER	Uncertainty Avoidance	45	92	92	92	0
INDIV	Individualism-Collectivism	45	46	46	46	0
POWER	Power Distance	45	54	54	54	0
MASCU	Masculinity-Femininity	45	95	95	95	0
ASSETS (Mil.US$)	Total Assets	45	4	80464	10828	17328
SALES (Mil.US$)	Total Sales	45	.9	89928	9881	16989
LOGASSETS	Log of Total Assets	45	1.5	11.3	8.2	1.8
LOGSALES	Log of Total Sales	44	4.6	11.4	8.1	1.6

Table 5-3--continued

COUNTRY	NORWAY					
VARIABLE	MEASURE	N	MIN	MAX	MEAN	STD DE
Dependent	*Total Items Disclosed/ Disclosed Items Possible*					
DISCA	Adhikari & Tondkar (A&T)	16	24	80	56	19.7
DISCB	Barrett (B)	16	17	74	53	19.1
DISCC	Choi (C)	16	34	75	56	13.8
DISCD	Singhvi & Desai (S&D)	16	32	73	56	13.5
DISCZ	Zarzeski (Z)	16	29	73	54	15.5
	Voluntary Items Disclosed/ Voluntary Items Possible					
VOLA	"Voluntary Disclosure" (A&T)	16	4	73	41	23
VOLB	"Voluntary Disclosure" (B)	16	16	73	47	21
VOLC	"Voluntary Disclosure" (C)	16	5	70	41	20
VOLD	"Voluntary Disclosure" (S&D)	16	0	65	38	19
VOLZ	"Voluntary Disclosure" (Z)	16	15	69	45	17
Independent						
FSALES	Foreign Sales/Total Sales	16	0	100	56	34.4
EMPLOYEE	Foreign Employees/Total Employees	16	0	70	29	29.3
FEQUITY	Percentage of Foreign Ownership	11	0	52	15	17.1
FDEBT	Foreign Public Debt/Total Public Debt	11	0	73	7	21.9
DEBT RATIO	Total Debt/Total Assets	16	.47	1.71	.72	.28
INSTITUTIONS	Percentage of Common Stock Owned by Institutions	9	0	56	20	22.8
FSUBNUM	Number of Foreign Subsidiaries	8	9	63	26.6	20.9
UNCER	Uncertainty Avoidance	16	50	50	56	0
INDIV	Individualism-Collectivism	16	69	69	69	0
POWER	Power Distance	16	31	31	31	0
MASCU	Masculinity-Femininity	16	8	8	8	0
ASSETS (Mil.US$)	Total Assets	16	25	11705	1364	2839
SALES (Mil.US$)	Total Sales	16	8	885	134	178
LOGASSETS	Log of Total Assets	16	3.2	9.4	6.1	1.5
LOGSALES	Log of Total Sales	16	2.1	6.4	4.3	1.1

Table 5-3--continued

COUNTRY	UNITED KINGDOM					
VARIABLE	MEASURE	N	MIN	MAX	MEAN	STD DE
Dependent	*Total Items Disclosed/ Disclosed Items Possible*					
DISCA	Adhikari & Tondkar (A&T)	49	41	89	67	11.3
DISCB	Barrett (B)	49	36	84	65	10.7
DISCC	Choi (C)	49	47	83	65	8.7
DISCD	Singhvi & Desai (S&D)	49	40	85	65	10.8
DISCZ	Zarzeski (Z)	49	47	78	67	7.9
	Voluntary Items Disclosed/ Voluntary Items Possible					
VOLA	"Voluntary Disclosure" (A&T)	49	23	83	50	14
VOLA	"Voluntary Disclosure" (B)	49	11	79	50	15
VOLC	"Voluntary Disclosure" (C)	49	28	83	53	15
VOLD	"Voluntary Disclosure" (S&D)	49	21	84	50	16
VOLZ	"Voluntary Disclosure" (Z)	49	25	73	48	12
Independent						
FSALES	Foreign Sales/Total Sales	47	0	85	41	30.3
EMPLOYEE	Foreign Employees/Total Employees	38	0	75	33	24.3
FEQUITY	Percentage of Foreign Ownership	23	0	31	4	7.4
FDEBT	Foreign Public Debt/Total Public Debt	27	0	100	11	25.9
DEBT RATIO	Total Debt/Total Assets	49	.19	1.07	.55	.16
INSTITUTIONS	Percentage of Common Stock Owned by Institutions	39	10	95	73	22.9
FSUBNUM	Number of Foreign Subsidiaries	22	3	110	28	26.2
UNCER	Uncertainty Avoidance	49	35	35	35	0
INDIV	Individualism-Collectivism	49	89	89	89	0
POWER	Power Distance	49	35	35	35	0
MASCU	Masculinity-Femininity	49	66	66	66	0
ASSETS (Mil.US$)	Total Assets	49	53	5628	658	1041
SALES (Mil.US$)	Total Sales	49	45	6318	819	1227
LOGASSETS	Log of Total Assets	49	3.9	8.6	5.8	1.1
LOGSALES	Log of Total Sales	49	3.8	8.8	6.0	1.1

Table 5-3--continued

COUNTRY	UNITED STATES					
VARIABLE	MEASURE	N	MIN	MAX	MEAN	STD DE
Dependent	*Total Items Disclosed/ Disclosed Items Possible*					
DISCA	Adhikari & Tondkar (A&T)	66	50	84	70	6.6
DISCB	Barrett (B)	66	53	91	73	9.3
DISCC	Choi (C)	66	50	83	68	7.4
DISCD	Singhvi & Desai (S&D)	66	46	84	71	9.1
DISCZ	Zarzeski (Z)	66	47	70	67	6.6
	Voluntary Items Disclosed/ Voluntary Items Possible					
VOLA	"Voluntary Disclosure" (A&T)	66	0	64	39	12
VOLB	"Voluntary Disclosure" (B)	66	28	100	56	20
VOLC	"Voluntary Disclosure" (C)	66	21	82	49	17
VOLD	"Voluntary Disclosure" (S&D)	66	5	70	56	17
VOLZ	"Voluntary Disclosure" (Z)	66	12	59	37	10
Independent						
FSALES	Foreign Sales/Total Sales	65	0	70	28	18.3
EMPLOYEE	Foreign Employees/Total Employees	37	0	87	73	18.5
FEQUITY	Percentage of Foreign Ownership	22	0	12	4	4.2
FDEBT	Foreign Public Debt/Total Public Debt	35	0	13	1	3.5
DEBT RATIO	Total Debt/Total Assets	66	.15	1.03	.57	.17
INSTITUTIONS	Percentage of Common Stock Owned by Institutions	35	10	90	60	17.7
FSUBNUM	Number of Foreign Subsidiaries	2	2	70	6	5.6
UNCER	Uncertainty Avoidance	66	46	46	46	0
INDIV	Individualism-Collectivism	66	91	91	91	0
POWER	Power Distance	66	40	40	40	0
MASCU	Masculinity-Femininity	66	62	62	62	0
ASSETS (Mil.US$)	Total Assets	66	32	252000	11612	38522
SALES (Mil.US$)	Total Sales	66	51	84000	7321	16046
LOGASSETS	Log of Total Assets	66	3.5	12.4	7.4	1.9
LOGSALES	Log of Total Sales	66	3.9	11.3	7.5	1.7

Table 5-4
Pearson Correlation Coefficients
Enterprise Disclosure Model

	FSALES	FEMP	FDEBT	FEQUITY	INSTITUT	DEBT RATIO	FSUBNUM
FSALES	1.00						
FEMPLOYEE	0.66	1.00					
FDEBT	0.10	0.10	1.00				
FEQUITY	0.10	-0.03	0.11	1.00			
INSTITUT	0.05	0.18	0.09	-0.17	1.00		
DEBT RATIO	0.14	0.08	0.03	-0.02	-0.01	1.00	
FSUBNUM	0.12	0.38	0.13	0.24	0.11	0.16	1.0
TASSETS	0.03	0.04	0.07	0.04	0.10	0.20	0.4
TSALES	0.05	0.02	0.12	0.10	0.20	0.21	0.3
UNCER	0.01	-0.10	0.25	0.16	-0.09	0.36	0.2
INDIV	0.00	0.07	-0.17	-0.06	0.34	0.14	0.2
POWER	0.01	0.08	0.07	-0.02	-0.19	-0.19	0.1
MASCU	-0.31	-0.22	0.19	-0.16	0.31	0.00	-0.1

	TASSETS	TSALES	UNCER	INDIV	POWER	MASCU
FSALES						
FEMPLOYEE						
FDEBT						
FEQUITY						
INSTITUT						
DEBT RATIO						
FSUBNUM						
TASSETS	1.00					
TSALES	** 0.82	1.00				
UNCER	0.10	0.20	1.00			
INDIV	0.03	-0.01	-0.28	1.00		
POWER	0.00	-0.01	0.37	-0.68	1.00	
MASCU	0.10	0.18	0.34	-0.21	0.08	1.0

** = Total sales and total assets are highly correlated, as expected. Only total assets are used as a proxy for size.

Table 5-5
Simple Regressions
Enterprise Disclosure Model
DISCA

	Coefficients	T-Statistic and Significance	Prob>F	Adjusted R-Square	Sample Size
FSALES (+)	0.12	3.89 [a]	0.0001	0.05	257
FEMPLOYEE (+)	0.24	4.95 [a]	0.0001	0.17	173
FEQUITY (+)	0.03	0.31	0.7549	-0.01	110
FDEBT (+)	-0.02	-0.56	0.5737	-0.00	146
INSTITUTION (+)	0.24	5.71 [a]	0.0001	0.17	146
DEBT RATIO (-) *	-0.21	-0.05	0.9579	-0.00	265
SIZE (+)	1.83	4.13 [a]	0.0001	0.05	265
UNCER (-)	-0.19	-5.55 a	0.0001	0.10	266
INDIV (+)	0.29	8.49 a	0.0001	0.21	266
MASCU (+)	-0.09	-2.27	0.0236	0.01	266
POWER (-)	-0.23	-3.77 a	0.0002	0.04	266

One-tail t-test is used for each variable.
a = p < .001   b = p < .01   c = p < .05

Note *i*: The results are similar for each of the five measures of the dependent variable, except for * = DISCD has a .02 significance.
Note *ii*: White's test for heteroscedasticity reveals a problem with INDIV only.

Description of Variables

FSALES = Foreign sales/total sales
FEMPLOYEE = Foreign employees/total employees
FEQUITY = Common shares owned by foreigners
FDEBT = Foreign public debt/total debt
INSTITUTION = Common shares owned by institutions
DEBT RATIO = Total debt/total assets
SIZE = Natural log of total assets (in US dollars)
UNCER = Uncertainty avoidance
INDIV = Individualism-Collectivism
MASCU = Masculinity-Femininity
POWER = Power Distance

Table 5-6
Multiple Regression for the Original Model
Enterprise Disclosure Model
Coefficients and T-Statistics

	DISCA	DISCB	DISCC	DISCD	DISCZ
INTERCEPT	17.11 (1.01)	12.01 (0.68)	23.47 (1.41)	8.72 (0.57)	23.81 (1.59)
FSALES (+)	0.17 (2.59)[b]	0.08 (1.31)[d]	0.13 (2.11)[c]	0.14 (2.51)[b]	0.12 (2.07)[c]
FEMPLOYEE (+)	0.00 (0.04)	0.09 (1.30)[d]	0.01 (0.25)	-0.00 (-0.04)	0.02 (0.40)
FEQUITY (+)	-0.05 (-0.50)	-0.09 (-0.81)	-0.04 (-0.40)	-0.01 (-0.11)	-0.59 (-0.60)
FDEBT (+)	-0.03 (-0.57)	-0.04 (-0.72)	-0.04 (-0.92)	-0.04 (-0.83)	-0.02 (-0.60)
UNCER (-)	-0.17 (-2.34)[c]	-0.16 (-2.01)[c]	-0.12 (-1.66)[c]	0.00 (0.01)	-0.09 (-1.39)[d]
INDIV (+)	0.41 (3.69)[a]	0.42 (3.65)[a]	0.43 (3.95)[a]	0.43 (4.36)[a]	0.36 (3.65)[a]
MASCU (+)	0.15 (2.17)[c]	0.10 (1.51)[d]	0.14 (2.08)[c]	0.13 (2.24)[c]	0.13 (2.24)[c]
POWER (-)	0.20 (1.00)	0.34 (1.58)nps	0.21 (1.03)	0.21 (1.15)	0.14 (0.80)
Sample Size	91	91	91	91	91
Adj. R-Square	.42	.39	.39	.34	.36
White's Test (P>Chisq)	.62	.41	.74	.72	.20

One-tail t-test is used for each variable.
a = p < .001 b = p < .01 c = p < .05 d = p < .10
nps = not of predicted sign, but significant

Dependent Variables
DISCA = Adhikari & Tondkar
DISCB = Barrett
DISCC = Choi
DISCD = Singhvi & Desai
DISCZ = Zarzeski

Table 5-7
Foreign Market Forces Only
Enterprise Disclosure Model
Coefficients and T-Statistics

	DISCA	DISCB	DISCC	DISCD	DISCZ
INTERCEPT	53.66 (18.21)	53.91 (18.39)	64.66 (22.37)	58.12 (22.53)	58.89 (23.12)
FSALES (+)	0.13 (1.85)[c]	0.05 (0.79)	0.09 (1.26)	0.07 (1.10)	0.07 (1.17)
FEMPLOYEE (+)	0.13 (1.58)[d]	0.21 (2.65)[b]	0.14 (1.80)[c]	0.11 (1.61)[d]	0.13 (1.89)[c]
FEQUITY (+)	-0.08 (-1.34)nps	-0.09 (1.49)nps	-0.09 (-1.51)nps	-0.04 (-0.91)	-0.05 (-1.08)
FDEBT (+)	-0.20 (-1.68)nps	-0.25 (-2.06)nps	-0.18 (-1.53)nps	-0.12 (-1.14)	-0.17 (-1.63)nps
Sample Size	91	91	91	91	91
Adj. R-Square	.16	.19	.13	.08	.13
White's Test (P>Chisq)	.53	.85	.53	.80	.69

One-tail t-test is used for each variable.
a = p < .001
b = p < .01
c = p < .05
d = p < .10
nps = not of predicted sign, but significant

Dependent Variables
DISCA = Adhikari & Tondkar; DISCB = Barrett; DISCC = Choi;
DISCD = Singhvi & Desai; DISCZ = Zarzeski

Independent Variables
FSALES = Foreign sales/total sales
FEMPLOYEE = Foreign employees/total employees
FEQUITY = Percentage of common shares owned by foreigners
FDEBT = Percentage of total debt held in foreign markets

Table 5-8
Four Cultural Forces Only
Enterprise Disclosure Model
Coefficients and T-Statistics

	DISCA	DISCB	DISCC	DISCD	DISCZ
INTERCEPT	28.72 (4.07)	14.98 (1.92)	40.68 (5.76)	31.17 (4.67)	33.25 (5.15)
UNCER (-)	-0.17 (-4.81)[a]	-0.21 (-5.31)[a]	-0.11 (3.23)[a]	0.00 (0.99)	-0.11 (-3.36)[a]
INDIV (+)	0.37 (8.03)[a]	0.45 (8.87)[a]	0.35 (7.63)[a]	0.32 (7.33)[a]	0.32 (7.70)[a]
MASCU (+)	0.04 (1.18)	0.12 (2.94)[b]	0.04 (1.03)	0.08 (2.18)[c]	0.07 (1.99)[c]
POWER (-)	0.29 (3.69)nps	0.36 (4.13)nps	0.19 (2.48)nps	0.07 (1.04)	0.21 (2.92)nps
Sample Size	266	266	266	266	266
Adj. R-Square	.28	.31	.25	.23	.24
White's Test (P>Chisq)	.00	.00	.01	.13	.00

One-tail t-test is used for each variable.
a = p < .001
b = p < .01
c = p < .05
d = p < .10
nps = not of predicted sign, but significant

Dependent Variables
DISCA = Adhikari & Tondkar; DISCB = Barrett; DISCC = Choi;
DISCD = Singhvi & Desai; DISCZ = Zarzeski

Independent Variables
UNCER = Uncertainty Avoidance
INDIV = Individualism
MASCU = Masculinity
POWER = Power Distance

Table 5-9
Main Model
Enterprise Disclosure Model
Coefficients and T-Statistics

	DISCA	DISCB	DISCC	DISCD	DISCZ
INTERCEPT	8.85 (0.85)	13.96 (1.22)	19.08 (1.92)	7.30 (0.81)	18.33 (2.10)
FSALES (+)	0.09 (2.30) c	-0.00 (-0.15)	0.07 (1.75) c	0.08 (2.12) c	0.05 (1.51) d
FEMPLOYEE (+)	0.05 (1.18)	0.13 (2.46) b	0.05 (1.18)	0.04 (0.89)	0.06 (1.43) d
INSTITUTION(+)	0.09 (2.30) c	0.03 (0.75)	0.06 (1.76) c	0.07 (2.08) c	0.05 (1.56) d
DEBT RATIO (-)	-4.93 (-0.77)	-19.45 (-2.79) b	-7.25 (-1.19)	-3.21 (-0.58)	-9.08 (-1.70) c
SIZE (+)	3.80 (6.32) a	3.99 (6.04) a	3.82 (6.63) a	3.78 (7.25) a	3.53 (6.96) a
UNCER (-)	-0.29 (-5.27) a	-0.26 (-4.30) a	-0.23 (-4.26) a	-0.11 (-2.32) b	-0.18 (-3.96) a
INDIV (+)	0.30 (4.42) a	0.32 (4.41) a	0.31 (4.77) a	0.27 (4.68) a	0.27 (4.75) a
MASCU (+)	0.07 (1.45) d	0.10 (1.79) c	0.07 (1.50) d	0.08 (1.97) c	0.09 (2.15) c
POWER (-)	0.20 (1.79) nps	0.22 (1.73) nps	0.16 (1.50) nps	0.09 (0.93)	0.12 (1.26)
Sample Size	123	123	123	123	123
Adj. R-Square	.61	.55	.60	.59	.60
White's Test (P>Chisq)	.89	.50	.91	.64	.89

One-tail t-test is used for each variable.
a = p < .001
b = p < .01
c = p < .05
d = p < .10
nps = not of predicted sign, but significant

Table 5-10
Reduced Main Model with Revised Market Forces
Enterprise Disclosure Model
Coefficients and T-Statistics

	DISCA	DISCB	DISCC	DISCD	DISCZ
INTERCEPT	38.86 (7.06)	47.78 (8.31)	48.57 (9.36)	32.63 (7.45)	44.19 (9.82)
FSALES (+)	0.06 (1.15)	-0.05 (-1.01)	0.03 (0.68)	0.03 (0.75)	0.01 (0.29)
FEMPLOYEE (+)	0.13 (2.11) c	0.22 (3.43) a	0.13 (2.27) b	0.10 (2.03) c	0.13 (2.52) b
INSTITUTION(+)	0.21 (4.95) a	0.16 (3.65) a	0.18 (4.63) a	0.17 (5.24) a	0.16 (4.71) a
DEBT RATIO (-)	-17.42 (-2.37) b	-30.72 (-4.01) a	-16.66 (-2.41) b	-7.27 (-1.24)	-16.30 (-2.71) b
SIZE	2.26 (3.19) a	2.66 (3.59) a	2.51 (3.77) a	3.05 (5.42) a	2.50 (4.32) a
Sample Size	123	123	123	123	123
Adj. R-Square	.35	.32	.34	.42	.36
White's Test (P>Chisq)	.44	.19	.76	.38	.34

One-tail t-test is used for each variable.
a = $p < .001$
b = $p < .01$
c = $p < .05$
d = $p < .10$

Dependent Variables
DISCA = Adhikari & Tondkar; DISCB = Barrett; DISCC = Choi;
DISCD = Singhvi & Desai; DISCZ = Zarzeski

Independent Variables
FSALES = Foreign sales/total sales
FEMPLOYEE = Foreign employees/total employees
INSTITUTION = Percentage of common shares owned by institutions
DEBT RATIO = Total debt/total assets
SIZE = Natural log of total assets (in US dollars)

Table 5-11
Main Model with Industry Indicators
Enterprise Disclosure Model
Coefficients and T-Statistics

	DISCA	DISCB	DISCC	DISCD	DISCZ
INTERCEPT	5.56 (0.49)	7.36 (0.62)	18.76 (1.77)	5.66 (0.62)	15.1 (0.10)
FSALES (+)	0.08 (1.59)^{d}	-0.04 (-0.74)	0.05 (1.02)	0.05 (1.34)^{d}	0.03 (0.82)
FEMPLOYEE (+)	0.00 (0.16)	0.09 (1.53)^{d}	0.02 (0.42)	-0.01 (-0.24)	0.03 (0.66)
INSTITUTION(+)	0.07 (1.77)^{c}	0.01 (0.24)	0.05 (1.25)	0.06 (1.73)^{c}	0.03 (0.97)
DEBT RATIO (-)	-5.00 (-0.61)	-17.2(-2.01)^{c}	-8.07 (-1.05)	-3.46 (-0.53)	-9.1 (-1.37)^{d}
SIZE (+)	3.89 (5.61)^{a}	4.12 (5.62)^{a}	3.85 (5.88)^{a}	3.93 (7.03)^{a}	3.61 (6.30)^{a}
UNCER (-)	-0.30 (-5.44)^{a}	-0.36 (-5.29)^{a}	-0.20 (-4.54)^{a}	-0.19 (-3.59)^{a}	-0.24 (-4.57)^{a}
INDIV (+)	0.28 (3.66)^{a}	0.29 (3.62)^{a}	0.29 (4.05)^{a}	0.23 (3.80)^{a}	0.25 (4.07)^{a}
MASCU (+)	0.03 (0.61)	0.05 (0.77)	0.04 (0.66)	0.03 (0.62)	0.06 (1.27)
POWER (-)	0.30 (2.31) nps	0.38 (2.74) nps	0.24 (1.95) nps	0.20 (1.93) nps	0.22 (2.00) nps
I-CONSTRUCTION	5.40 (0.98)	7.54 (1.30)	2.02 (0.39)	4.50 (1.02)	3.98 (0.88)
I-CHEMICALS	12.87 (2.33)^{c}	15.34 (2.63)^{b}	11.29 (2.17)^{c}	14.56 (3.28)^{b}	11.33 (2.49)^{c}
I-FABRICATED PRODUCTS	7.94 (1.43)	13.26 (2.25)^{c}	7.20 (1.37)	11.53 (2.58)^{c}	7.35 (1.60)
I-MACHINERY	6.70 (1.28)	13.13 (2.37)^{b}	5.83 (1.18)	11.78 (2.79)^{b}	7.44 (1.72)^{d}
I-ELECTRICAL EQUIPMENT	8.85 (1.77)^{d}	12.76 (2.42)^{b}	6.09 (1.29)	8.61 (2.14)^{c}	7.40 (1.79)^{d}
I-TRANSPORT. EQUIPMENT	8.20 (1.38)	14.21 (2.27)^{c}	7.81 (1.39)	10.79 (2.26)^{c}	7.16 (1.46)
Sample Size	111	111	111	111	111
Adj. R-Square	.62	.58	.60	.64	.61
White's Test (P>Chisq)	.80	.37	.52	.45	.44

One-tail t-test is used for all variables, except the industry variables.
a = $p < .001$ b = $p < .01$ c = $p < .05$ d = $p < .10$
nps = not of predicted sign, but significant

I = Industry Category
Note: The miscellaneous industries are in the intercept term.

Table 5-12
Main Model with Voluntary Disclosure
Enterprise Disclosure Model
Coefficients and T-Statistics

	VOLA	VOLB	VOLC	VOLD	VOLZ
INTERCEPT	-4.28 (-0.31)	2.06 (0.11)	-18.12 (-1.37)	-30.12 (-2.24)	13.83 (1.21)
FSALES (+)	0.19 (3.20) [a]	-0.00 (-0.03)	0.13 (2.31) [c]	0.16 (2.79) [b]	0.13 (2.65) [b]
FEMPLOYEE (+)	0.09 (1.40) [d]	0.10 (1.14)	0.11 (1.76) [c]	0.08 (1.33) [d]	0.08 (1.44) [d]
INSTITUTION (+)	0.19 (3.60) [a]	0.09 (1.37) [d]	0.11 (2.27) [c]	0.13 (2.63) [b]	0.11 (2.73) [b]
DEBT RATIO (-)	4.64 (0.54)	-22.87 (-2.03) [c]	-4.17 (-0.51)	2.20 (0.26)	-3.18 (-0.46)
SIZE (+)	2.43 (3.02) [b]	3.98 (3.73) [a]	3.61 (4.71) [a]	4.48 (5.75) [a]	2.57 (3.87) [a]
UNCER (-)	-0.18 (-2.46) [b]	-0.16 (-1.60) [d]	-0.14 (-2.04) [c]	-0.15 (-2.11) [c]	-0.05 (-0.90)
INDIV (+)	0.15 (1.68) [c]	0.26 (2.21) [c]	0.27 (3.23) [a]	0.26 (3.04) [b]	0.05 (0.70)
MASCU (+)	0.04 (0.65)	-0.04 (-0.53)	0.12 (1.86) [c]	0.10 (1.63) [d]	-0.02 (-0.42)
POWER (-)	0.10 (0.64)	0.39 (1.90)nps	0.19 (1.31)nps	0.23 (1.55)nps	-0.01 (-0.11)
Sample Size	123	123	123	123	123
Adj. R-Square	.49	.24	.49	.53	.38
White's Test (P>Chisq)	.84	.48	.89	.81	.93

One-tail t-test is used for each variable.
a = p < .001 b = p < .01 c = p < .05 d = p < .10
nps = not of predicted sign, but significant

VOLA = Adhikari & Tondkar
VOLB = Barrett
VOLC = Choi
VOLD = Singhvi & Desai
VOLZ = Zarzeski

Table 5-13
Level of International Dependence
Dichotomized By Number of Foreign Subsidiaries
Total Disclosure Scores
Enterprise Disclosure Model
Coefficients and T-Statistics

Total Disclosure DISCA	High International Dependence	Low International Dependence
INTERCEPT	145.72 (3.16)	-29.01 (-1.16)
FSALES (+)	-0.00 (-0.03)	0.12 (2.16) ^{c}
INSTITUTION(+)	0.06 (0.87)	0.02 (0.39)
DEBT RATIO (-)	-13.13 (-0.97)	0.20 (0.02)
SIZE (+)	2.88 (1.95) ^{c}	1.05 (0.82)
UNCER (-)	-1.24 (-2.67) ^{b}	-0.15 (-1.49) ^{d}
INDIV (+)	-0.74 (-1.65) ^{nps}	0.47 (2.74) ^{b}
MASCU (+)	-0.10 (-1.01)	0.24 (1.99) ^{c}
POWER (-)	0.93 (2.15) ^{nps}	0.72 (2.63) ^{nps}
Sample Size	39	31
Adj. R-Square	.50	.32
White's Test (Prob > ChiSq)	.95	.44
Chow Test (Prob > F)	All Variables	.01
	Group of Cultural Variables	.01
	UNCER	.05 nps
	INDIV	.01
	MASCU	.05
	POWER	NS

a = p < .001 c = p < .05
b = p < .01 d = p < .10
nps = not predicted sign, but significant
Note: One-tail t-test is used for each variable.

Table 5-13--continued

Total Disclosure DISCB	High International Dependence	Low International Dependence
INTERCEPT	212.76 (4.56)	-42.98 (-1.29)
FSALES (+)	0.11 (1.13)	0.15 (1.98)[c]
INSTITUTION(+)	0.01 (0.26)	-0.09 (-1.03)
DEBT RATIO (-)	-24.52 (-1.79)[c]	-16.86 (-1.48)[d]
SIZE (+)	3.69 (2.48)[b]	1.91 (1.11)
UNCER (-)	-2.09 (-4.46)[a]	-0.30 (-2.24)[c]
INDIV (+)	-1.64 (-3.60)[nps]	0.61 (2.63)[b]
MASCU (+)	-0.01 (-0.18)	0.52 (3.26)[b]
POWER (-)	1.83 (4.18)[nps]	0.75 (2.05)[nps]
Sample Size	39	32
Adj. R-Square	.52	.34
White's Test (Prob > ChiSq)	.45	.77
Chow Test (Prob > F)	All Variables	.01
	Group of Cultural Variables	.001
	UNCER	.01 nps
	INDIV	.001
	MASCU	.01
	POWER	.10

a = p < .001 c = p < .05
b = p < .01 d = p < .10
nps = not predicted sign, but significant

Note: One-tail t-test is used for each variable.

Table 5-13--continued

Total Disclosure DISCC	High International Dependence	Low International Dependence
INTERCEPT	122.43 (3.01)	-0.43 (-0.01)
FSALES (+)	0.10 (1.12)	0.09 (1.48) d
INSTITUTION(+)	0.04 (0.65)	0.00 (0.01)
DEBT RATIO (-)	-2.99 (-0.25)	-1.65 (-0.18)
SIZE (+)	2.28 (1.75) c	2.49 (1.80) c
UNCER (-)	-1.13 (-2.76) b	-0.20 (-1.86) c
INDIV (+)	-0.61 (-1.53) nps	0.38 (2.04) c
MASCU (+)	0.01 (0.13)	0.27 (2.16) c
POWER (-)	0.98 (2.58) nps	0.35 (1.21)
Sample Size	39	32
Adj. R-Square	.51	.23
White's Test (Prob > ChiSq)	.44	.36
Chow Test (Prob > F)	All Variables	NS
	Group of Cultural Variables	.15
	UNCER INDIV MASCU POWER	.05 nps .05 .10 NS

a = p < .001 c = p < .05
b = p < .01 d = p < .10
nps = not predicted sign, but significant
NS = not significant
Note: One-tail t-test is used for each variable.

Table 5-13--continued

Total Disclosure DISCD	High International Dependence	Low International Dependence
INTERCEPT	73.95 (2.04)	10.76 (0.41)
FSALES (+)	0.03 (0.49)	0.09 (1.51) d
INSTITUTION(+)	0.05 (0.97)	0.06 (0.91)
DEBT RATIO (-)	-0.81 (-0.07)	-3.38 (-0.38)
SIZE (+)	1.17 (1.01)	2.48 (1.86) c
UNCER (-)	-0.42 (-1.17)	-0.13 (-1.29)
INDIV (+)	-0.13 (-0.39)	0.19 (1.05)
MASCU (+)	0.05 (0.66)	0.28 (2.30) c
POWER (-)	0.33 (0.97)	0.05 (0.20)
Sample Size	39	32
Adj. R-Square	.27	.33
White's Test (Prob > ChiSq)	.40	.48
Chow Test (Prob > F)	All Variables	NS
	Group of Cultural Variables	NS
	UNCER INDIV MASCU POWER	NS NS .10 NS

a = p < .001 c = p < .05
b = p < .01 d = p < .10
nps = not predicted sign, but significant
NS = not significant
Note: One-tail t-test is used for each variable.

Table 5-13--continued

Total Disclosure DISCZ	High International Dependence	Low International Dependence
INTERCEPT	161.94 (4.19)	-22.09 (-1.05)
FSALES (+)	0.03 (0.42)	0.11 (2.30) [c]
INSTITUTION(+)	0.02 (0.44)	-0.00 (-0.03)
DEBT RATIO (-)	-14.18 (-1.25)	-3.75 (-0.52)
SIZE (+)	2.97 (2.40) [c]	1.65 (1.53) [d]
UNCER (-)	-1.36 (-3.49) [a]	-0.12 (-1.43) [d]
INDIV (+)	-0.99 (-2.63) [nps]	0.43 (2.99) [b]
MASCU (+)	-0.05 (-0.66)	0.31 (3.08) [b]
POWER (-)	1.11 (3.08) [nps]	0.56 (2.45) [nps]
Sample Size	39	32
Adj. R-Square	.44	.42
White's Test (Prob > ChiSq)	.71	.42
Chow Test (Prob > F)	All Variables	.01
	Group of Cultural Variables	.001
	UNCER INDIV MASCU POWER	.01 nps .001 .01 NS

a = $p < .001$ c = $p < .05$
b = $p < .01$ d = $p < .10$
nps = not predicted sign, but significant

Note: One-tail t-test is used for each variable.

Table 5-14
Level of International Dependence
Dichotomized By Percentage of Foreign Employees
Voluntary Disclosure Scores
Enterprise Disclosure Model
Coefficients and T-Statistics

Voluntary Disclosure VOLA	High International Dependence	Low International Dependence
INTERCEPT	-41.40 (-1.54)	129.79 (4.02)
FSALES (+)	0.34 (3.99)[a]	0.06 (0.85)
INSTITUTION(+)	0.19 (2.25)[c]	0.14 (2.11)[c]
DEBT RATIO (-)	2.51 (0.19)	0.29 (0.02)
SIZE (+)	1.56 (1.35) d	4.80 (3.95)[a]
UNCER (-)	-0.09 (-0.76)	-0.60 (-4.79)[a]
INDIV (+)	0.40 (2.48)[b]	-0.70 (-3.47)[nps]
MASCU (+)	0.16 (1.36)[d]	0.41 (3.32)[a]
POWER (-)	0.33 (1.65)[nps]	-1.78 (-3.90)[a]
Sample Size	57	66
Adj. R-Square	.50	.42
White's Test (Prob > ChiSq)	.60	.79
Chow Test (Prob > F)	All Variables	.01
	Group of Cultural Variables	.001
	UNCER	.05
	INDIV	.001 nps
	MASCU	NS
	POWER	.001

a = p < .001 c = p < .05
b = p < .01 d = p < .10
nps = not predicted sign, but significant
Note: One-tail t-test is used for each variable.

Table 5-14--continued

Voluntary Disclosure VOLB	High International Dependence	Low International Dependence
INTERCEPT	33.44 (0.77)	-1.72 (-0.04)
FSALES (+)	0.01 (0.11)	-0.05 (-0.61)
INSTITUTION(+)	0.24 (1.78) c	-0.01 (-0.13)
DEBT RATIO (-)	-39.78 (-1.92) c	-26.09 (-1.67) c
SIZE (+)	2.06 (1.10)	6.60 (4.20) a
UNCER (-)	-0.11 (-0.55)	-0.11 (-0.71)
INDIV (+)	0.13 (0.50)	0.28 (1.08)
MASCU (+)	-0.11 (-0.61)	-0.08 (-0.55)
POWER (-)	0.36 (1.12)	0.27 (0.46)
Sample Size	57	66
Adj. R-Square	.15	.26
White's Test (Prob > ChiSq)	.48	.77
Chow Test (Prob > F)	All Variables	NS
	Group of Cultural Variables	NS
	UNCER INDIV MASCU POWER	NS NS NS NS

a = p < .001　　c = p < .05
b = p < .01　　d = p < .10
nps = not predicted sign, but significant
NS = not significant
Note: One-tail t-test is used for each variable.

Table 5-14--continued

Voluntary Disclosure VOLC	High International Dependence	Low International Dependence
INTERCEPT	-47.56 (-1.52)	46.18 (1.53)
FSALES (+)	0.21 (2.10)[c]	0.09 (1.37)[d]
INSTITUTION(+)	0.09 (0.94)	0.08 (1.36)[d]
DEBT RATIO (-)	-4.91 (-0.32)	-4.96 (-0.44)
SIZE (+)	3.14 (2.32)[c]	4.93 (4.33)[a]
UNCER (-)	-0.17 (-1.20)	-0.32 (-2.74)[b]
INDIV (+)	0.49 (2.61)[b]	-0.14 (-0.76)
MASCU (+)	0.27 (1.96)[c]	0.26 (2.24)[c]
POWER (-)	0.46 (1.99)[nps]	-0.70 (-1.63)[d]
Sample Size	57	66
Adj. R-Square	.36	.40
White's Test (Prob > ChiSq)	.47	.24
Chow Test (Prob > F)	All Variables	NS
	Group of Cultural Variables	NS
	UNCER	NS
	INDIV	.05 nps
	MASCU	NS
	POWER	.05

a = p < .001 c = p < .05
b = p < .01 d = p < .10
nps = not predicted sign, but significant
NS = not significant
Note: One-tail t-test is used for each variable.

Table 5-14--continued

Voluntary Disclosure VOLD	High International Dependence	Low International Dependence
INTERCEPT	-45.04 (-1.55)	35.82 (1.12)
FSALES (+)	0.21 (2.32) [c]	0.10 (1.50) [d]
INSTITUTION(+)	0.12 (1.37) [d]	0.07 (1.22)
DEBT RATIO (-)	-7.03 (-0.51)	0.50 (0.04)
SIZE (+)	3.19 (2.55) [b]	6.49 (5.41) [a]
UNCER (-)	-0.14 (-1.06)	-0.33 (-2.64) [b]
INDIV (+)	0.48 (2.77) [b]	-0.18 (-0.94)
MASCU (+)	0.19 (1.52) [d]	0.25 (2.07) [c]
POWER (-)	0.44 (2.05) [nps]	-0.72 (-1.60) [d]
Sample Size	57	66
Adj. R-Square	.42	.49
White's Test (Prob > ChiSq)	.46	.62
Chow Test (Prob > F)	All Variables	.05
	Group of Cultural Variables	NS
	UNCER	NS
	INDIV	.01 nps
	MASCU	NS
	POWER	.05

a = p < .001　　c = p < .05

b = p < .01　　d = p < .10

nps = not predicted sign, but significant

Note: One-tail t-test is used for each variable.

Table 5-14--continued

Voluntary Disclosure VOLZ	High International Dependence	Low International Dependence
INTERCEPT	-24.19 (-1.01)	108.53 (4.21)
FSALES (+)	0.30 (4.03) a	0.01 (0.20)
INSTITUTION(+)	0.11 (1.46) d	0.08 (1.59) d
DEBT RATIO (-)	-3.92 (-0.34)	-6.15 (-0.64)
SIZE (+)	1.66 (1.60) d	4.68 (4.83) a
UNCER (-)	0.19 (1.06)	-0.35 (-3.47) a
INDIV (+)	0.27 (1.93) c	-0.54) (-3.38) nps
MASCU (+)	0.10 (1.04)	0.21 (2.13) c
POWER (-)	0.19 (1.06)	-1.36 (-3.74) a
Sample Size	57	66
Adj. R-Square	.36	.36
White's Test (Prob > ChiSq)	.51	.45
Chow Test (Prob > F)	All Variables	.01
	Group of Cultural Variables	.01
	UNCER	.05
	INDIV	.001 nps
	MASCU	NS
	POWER	.001

a = p < .001 c = p < .05
b = p < .01 d = p < .10
nps = not predicted sign, but significant
NS = not significant
Note: One-tail t-test is used for each variable.

Table 5-15
Country Models Excluding Cultural Forces
Enterprise Disclosure Model
Coefficients and T-Statistics

FRANCE	DISCA	DISCB	DISCC	DISCD	DISCZ
INTERCEPT	14.32 (0.34)	-18.31 (-0.64)	4.56 (0.14)	-1.35 (-0.04)	4.31 (0.12)
FSALES (+)	0.14 (0.51)	0.37 (1.97)[c]	0.30 (1.43)[d]	0.27 (1.42)[d]	0.20 (0.91)
INSTITUTIONS (+)	0.06 (0.38)	-0.08 (-0.77)	-0.01 (-0.08)	-0.05 (-0.50)	-0.02 (-0.22)
DEBT RATIO (-)	-19.73 (-0.68)	-1.80 (-0.09)	13.99 (0.63)	29.89 (1.52)[nps]	-5.21 (-0.22)
SIZE (+)	6.18 (1.66)[d]	7.76 (3.05)[b]	5.19 (1.83)[c]	4.23 (1.66)[d]	6.73 (2.23)[c]
Overall Model Prob > F	.30	.04	.29	.31	.22
Sample Size	14	14	14	14	14
Adjusted R-Square	.11	.44	.12	.10	.18

GERMANY	DISCA	DISCB	DISCC	DISCD	DISCZ
INTERCEPT	36.81 (0.88)	17.92 (0.36)	34.65 (0.71)	52.01 (1.16)	50.34 (1.27)
FSALES (+)	0.43 (0.83)	0.95 (1.57)[d]	0.78 (1.30)	0.33 (0.59)	0.47 (0.96)
INSTITUTIONS (+)	0.05 (0.30)	-0.09 (-0.48)	-0.17 (-0.95)	-0.00 (-0.00)	-0.04 (-0.27)
DEBT RATIO (-)	-17.35 (-0.48)	-20.87 (-0.49)	-0.08 (-0.00)	-15.94 (-0.41)	-27.32 (-0.80)
SIZE (+)	1.03 (0.59)	0.03 (0.01)	-0.02 (-0.01)	0.82 (0.44)	0.81 (0.49)
Overall Model Prob > F	.29	.20	.49	.59	.27
Sample Size	10	10	10	10	10
Adjusted R-Square	.22	.35	-.01	-.11	.25

One-tail t-test is used for each variable.
a = $p < .001$
b = $p < .01$
c = $p < .05$
d = $p < .10$
nps = not of the predicted sign, but significant
White's test for each country model shows no heteroscedasticity problems.

Table 5-15--continued

HONG KONG	DISCA	DISCB	DISCC	DISCD	DISCZ
INTERCEPT	57.43 (4.28)	66.27 (4.04)	57.03 (4.03)	43.73 (2.40)	57.96 (5.65)
FSALES (+)	0.00 (0.00)	-0.01 (-0.09)	-0.05 (-0.47)	-0.02 (-0.21)	-0.02 (-0.30)
INSTITUTIONS (+)	-0.12 (-0.60)	-0.03 (-0.15)	-0.13 (-0.60)	-0.10 (-0.34)	-0.01 (-0.11)
DEBT RATIO (-)	19.20 (0.82)	2.92 (0.10)	29.20 (1.18)	23.44 (0.73)	14.03 (0.78)
SIZE (+)	-1.05 (-0.45)	-1.93 (-0.68)	0.20 (0.08)	0.57 (0.18)	-1.02 (-0.58)
Overall Model Prob > F	.74	.92	.80	.93	.86
Sample Size	10	10	10	10	10
Adjusted R-Square	-.29	-.53	-.36	-.56	-0.44

JAPAN	DISCA	DISCB	DISCC	DISCD	DISCZ
INTERCEPT	4.86 (0.30)	15.16 (0.92)	20.85 (1.38)	20.23 (1.86)	17.58 (1.51)
FSALES (+)	0.13 (1.17)	0.08 (0.73)	0.12 (1.16)	0.07 (0.96)	0.13 (1.64)^{d}
INSTITUTIONS (+)	0.07 (0.72)	-0.06 (-0.54)	0.07 (0.70)	0.14 (1.93)^{c}	0.01 (0.22)
DEBT RATIO (-)	-20.98 (-1.33)^{d}	-48.38 (-2.99)^{b}	-25.11 (-1.68)^{d}	-26.85 (-2.50)^{b}	-21.05 (-1.82)^{c}
SIZE (+)	6.40 (3.17)^{b}	8.77 (4.21)^{a}	6.23 (3.24)^{b}	5.76 (4.17)^{a}	6.21 (4.19)^{a}
Overall Model Prob > F	.01	.01	.01	.01	.01
Sample Size	28	28	28	28	28
Adjusted R-Square	.36	.46	.38	.56	.51

One-tail t-test is used for each variable.
a = $p < .001$
b = $p < .01$
c = $p < .05$
d = $p < .10$
nps = not of the predicted sign, but significant

White's test for each country model shows no heteroscedasticity problems.

Table 5-15--continued

NORWAY	DISCA	DISCB	DISCC	DISCD	DISCZ
INTERCEPT	-3.63 (-0.10)	-38.53 (-1.06)	11.05 (0.36)	-9.11 (-0.49)	1.76 (0.06)
FSALES (+)	-0.07 (-0.53)	-0.13 (-1.00)	-0.08 (-0.72)	-0.02 (-0.38)	-0.08 (-0.84)
INSTITUTIONS (+)	0.57 (2.18) ^{c}	0.16 (0.61)	0.34 (1.54) ^{d}	0.14 (1.07)	0.36 (1.92) ^{d}
DEBT RATIO (-)	8.25 (0.16)	73.99 (1.37)	12.49 (0.28)	39.65 (1.46)	12.87 (0.34)
SIZE (+)	7.08 (1.59) ^{d}	7.22 (1.56) ^{d}	6.62 (1.72) ^{d}	5.70 (2.44) ^{c}	7.15 (2.21) ^{c}
Overall Model Prob > F	.06	.14	.10	.04	.05
Sample Size	9	9	9	9	9
Adjusted R-Square	.69	.52	.60	.76	.73

UNITED KINGDOM	DISCA	DISCB	DISCC	DISCD	DISCZ
INTERCEPT	31.02 (4.42)	28.68 (3.76)	40.59 (6.25)	33.07 (4.58)	37.49 (7.15)
FSALES (+)	0.12 (2.61) ^{b}	0.05 (1.04)	0.08 (2.08) ^{c}	0.13 (2.84) ^{b}	0.06 (1.82) ^{c}
INSTITUTIONS (+)	0.10 (1.77) ^{c}	0.07 (1.17)	0.14 (2.69) ^{b}	0.08 (1.33) ^{d}	0.11 (1.58) ^{b}
DEBT RATIO (-)	2.88 (0.36)	2.30 (0.27)	0.48 (0.06)	1.16 (0.14)	0.93 (0.15)
SIZE (+)	4.06 (3.87) ^{a}	4.93 (4.32) ^{a}	3.78 (3.89) ^{a}	3.55 (3.29) ^{b}	3.62 (4.62) ^{a}
Overall Model Prob > F	.01	.01	.01	.01	.01
Sample Size	38	38	38	38	38
Adjusted R-Square	.60	.49	.61	.55	.64

One-tail t-test is used for each variable.
a = $p < .001$
b = $p < .01$
c = $p < .05$
d = $p < .10$
nps = not of the predicted sign, but significant

White's test for each country model shows no heteroscedasticity problems.

Table 5-15--continued

UNITED STATES	DISCA	DISCB	DISCC	DISCD	DISCZ
INTERCEPT	44.19 (7.14)	54.16 (6.36)	54.01 (7.59)	40.88 (5.86)	52.31 (8.35)
FSALES (+)	0.23 (3.27) a	0.05 (0.57)	0.25 (3.11) b	0.21 (2.63) b	0.20 (2.88) b
INSTITUTIONS (+)	0.02 (0.48)	0.07 (0.88)	0.01 (0.11)	0.05 (0.81)	0.01 (0.08)
DEBT RATIO (-)	-0.34 (-0.04)	-20.17) (-1.71) c	0.39 (0.04)	9.39 (0.97)	-5.65 (-0.65)
SIZE (+)	2.57 (2.92) b	3.25 (2.68) b	2.55 (2.52) b	2.25 (2.27) c	2.46 (2.77) b
Overall Model Prob > F	.01	.01	.01	.01	.01
Sample Size	35	35	35	35	35
Adjusted R-Square	.58	.27	.53	.51	.51

One-tail t-test is used for each variable.
a = p < .001
b = p < .01
c = p < .05
d = p < .10
nps = not of the predicted sign, but significant

White's test for each country model shows no heteroscedasticity problems.

Table 5-16
Replications of Prior Disclosure Studies
Simple Regression Results
DISCA

	Coefficients	T-Statistic and Significance	Prob>F	Sample Size
DEBT RATIO (-) *	-0.21	-0.05	0.9579	265
SIZE (+)	1.83	4.13 a	0.0001	265
FSUBNUMBER (+)	0.13	3.78 a	0.0002	144
FSUBASSETS (+)	0.11	3.09 b	0.0026	106
BIGSIX (+)	9.90	5.55 a	0.0001	254
FIXEDASSET% (+)	10.01	2.03 c	0.0428	265
OWNERNUMBER (+)	-0.00	-0.68	0.4965	40
NI MARGIN (+) **	-7.64	-1.45	0.1478	265
ROASSETS (+)	-0.45	-0.04	0.9659	265
ROEQUITY (+)	-0.27	-0.12	0.9015	265
ROEQUITYAVG (+)	0.34	0.11	0.9096	265

One-tail t-test is used for each variable.
a = p < .001   b = p < .01   c = p < .05

Note: The results are similar for each of the five measures of the dependent variable, except for * = DISCD has a .02 significance and ** = DISCC, DISCD, AND DISCZ have at least .08 significance.

Description of Variables

DEBT RATIO = Total debt/total assets
SIZE = Natural log of total assets (in US dollars)
FSUBNUMBER = Number of foreign subsidiaries
FSUBASSETS = Percentage of assets in foreign locations
BIGSIX = Large auditor versus small auditor
FIXEDASSET% = Book value of fixed assets/total assets
OWNERNUMBER = Number of common stockholders
NI MARGIN = Profit margin = Net income/net sales
ROASSETS = Net income/total assets
ROEQUITY = Net income/stockholders' equity
ROEQUITYAVG = 3-year average of return on equity

Table 5-17
Replications of Prior Disclosure Studies
Multiple Regression Results
Coefficients and P-Values
DISCA

Research Study and Dependent Variable	Independent Variables	Original Research Results	Replication Results
CHOW AND WONG-BOREN 1987 Voluntary Disclosure in Mexico	Size of Firm Fixed Asset % Debt Ratio	Significant Not Significant Not Significant	1.82 (.001) 9.52 (.05) 3.17 (.30)
McNALLY, ENG, AND HASSELDINE 1982 Voluntary Disclosure in New Zealand	Size of Firm Return on Assets Auditor Size Industry	Significant Not Significant Not Significant Not Significant	1.54 (.01) -5.40 (.35) 3.61 (.10) 0.66 to 9.60 (.01 to .30)
FIRTH 1979 Voluntary Disclosure in United Kingdom	Size of Firm Auditor Size	Significant Not Significant	1.98 (.001) 4.61 (.05)
SINGHVI AND DESAI 1971 Total Disclosure In United States	Size of Firm Auditor Size Return on Equity Profit Margin	Significant Not Significant Not Significant Significant	2.05 (.001) 4.64 (.05) 2.52 (.20) -11.92 (.05)

Note *i*: Not all variables of original studies are available for replication.
Note *ii*: Parametric tests were not performed in all of the original studies.
* = Size is not significant in the multiple regression analysis.

CHAPTER 6
SUMMARY, IMPLICATIONS, AND FURTHER RESEARCH

The first part of this chapter contains a summary of objectives and findings of the study. Implications based on the findings are presented in the second section. Finally, suggestions are made concerning further research that may aid the international accounting harmonization effort.

Summary

The objectives of this study are (a) to identify the country and company factors that affect investor-oriented disclosure of financial information in annual reports of local and international business enterprises and (b) to determine whether disclosure behavior changes in relation to home culture when enterprises more heavily rely upon international resources. Motivation for the study emanates from the on-going international accounting harmonization debate. This study attempts to find empirical evidence about the *necessity* and the *feasibility* of mandatory harmonization.

The countries included in this study are France, Germany, Hong Kong, Japan, Norway, the United Kingdom, and the United States. The country selection criteria allows for cultural diversity. The companies are mainly manufacturing in nature and comprise both local and international companies. The company selection criteria allows for variation in the market forces; this variation is necessary in examining whether disclosure behavior changes when firms are more internationally dependent for their resources (capital, labor, materials, and customers).

The explanatory variables, market forces and cultural forces, are regressed on the response variable, level of investor-oriented disclosure in English-version annual reports of business enterprises. The pooled, cross-sectional sample is measured by means of ordinary least squares. Then, to determine whether the culture-disclosure relationship changes when an enterprise is more internationally dependent, (Wald) tests are applied to reduced samples split by high versus low international dependence.

In general, market forces and cultural forces are significantly related to total financial disclosure. Specifically, the following market forces are positively related to total disclosure: (a) percentage of foreign sales to total sales, (b) percentage of foreign employees to total employees, (c) percentage of institutional ownership of common stock, and (d) enterprise size. In addition, the following cultural forces are associated with total disclosure: (a) individualism is positively related, (b) uncertainty avoidance is negatively related, and (c) masculinity is positively related.

When the sample is split by various proxies for level of international dependence, there is evidence that disclosure behavior changes as predicted. The more internationally dependent firms appear to act *unlike* their home culture as they disclose information in their English-version annual reports (i.e., cultural secrecy is mitigated).

Implications

This research study adds to the body of accounting disclosure literature because it is the first to examine the effect of market and cultural forces of local and international business enterprises upon total disclosure in annual reports. This study is the first to show that firms dependent upon international resources change their disclosure behavior such that cultural secrecy is mitigated. Results of multiple regression analysis show that local firms' voluntary disclosure practices are driven by culture and by the markets, while international firms' disclosure practices are primarily market-driven. Based upon the results of this study, several implications are considered.

First, while both market forces and cultural forces relate to total disclosure, there is evidence that market forces relate to the voluntary portion and that cultural forces relate to the required portion. Market forces appear to be harmonizing the disclosures of firms that depend especially upon international resources. This implies that mandated accounting harmonization may not be necessary. The marketplace appears to be accomplishing voluntary accounting disclosure.

Second, if cultural forces relate to required disclosure and if culture of a country[1] is difficult to change, then mandated accounting harmonization across countries may not be possible. Evidence from this study shows that culture can change when outside forces offer benefits for the firm. Once again, the marketplace appears to be accomplishing higher levels of accounting disclosure.

Third, different market forces in each country are related to total investor-oriented disclosures. For example, foreign sales in the United Kingdom and in the United States are important market forces, institutional ownership of company stock in Norway and in the United Kingdom are important, while the debt ratio in Japan is important. These results offer additional evidence that institutions have evolved differently and country differences[2] may preclude mandated accounting harmonization across countries.

In summary, this study provides evidence that enterprise financial reporting systems are likely to evolve spontaneously in response to demands of constituents, both local and international. Economic processes in the international environment appear to affect cultural processes related to financial disclosure. To remain competitive in foreign markets, an enterprise may increase its financial disclosures and thereby exhibit behavior unlike its home culture.

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[1] If country culture is difficult to change, then country accounting systems are likely to react similarly.

[2] Country institutional differences in financing (banking versus stock ownership) and in public relations (foreign sales) appear to be important forces that drive total disclosure.

Suggestions for Further Research

This research has clearly identified several market and cultural forces that affect total disclosure in English-version annual reports. Because national accounting systems and international economic systems influence the financial disclosures of multinational enterprises, it is important for researchers to continue the study of institutional economics and its relationship to financial disclosure. There is a need to study the relationship between the spontaneous order of the market and the rules upon which it is based, especially in the international marketplace. Thus, the following research propositions are offered to interested researchers.

First, it would be beneficial to undertake a study of appropriate disclosure rules that would enhance the working of the markets.[3] Rather than requesting users of financial statements to score each disclosure item on a scale, it might be more meaningful to ask the users to rank disclosure items against each other. Such rankings should be obtained from user groups in all countries with major capital markets in order to determine whether there are country differences. Another way to obtain meaningful responses is to ask the user groups to rank only the disclosure items that they obtain from the annual reports, not from other sources. In addition to the ranking of a list of disclosure items, the users should be asked to list the three disclosures that must be present *in annual reports* before a decision can be made about the investment potential of a company.[4]

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[3] Markets include capital markets and product markets.

[4] Increasingly, financial analysts use information from other than the annual report. Standard setters need to know what *annual report* information is vital to users.

Information compiled from the foregoing studies could be helpful to the international accounting standard setting bodies, especially the International Organization of Securities Commissions.

Second, to enhance our understanding of information disclosure behavior, further research can be performed with data provided by non-English companies releasing English-version annual reports. English is considered the international language of business, and using English for one's financial statements is an added cost to the firm. With a much larger sample size of countries than the current study, it would be interesting to know what specific items, are voluntarily disclosed in English-version annual reports and to determine the factors that may be causing such disclosure.

Understanding the motivation for multinationals' voluntary disclosure behavior may be helpful when companies in more secretive countries are contemplating entrance into foreign markets. In addition, understanding the benefits of additional disclosure of information may enable new entrants to reduce costs and thereby have a better chance for international survival.

Third, a time-series study about country required disclosures and company total disclosures could investigate whether, over a span of time, market or cultural forces are more influential. In addition, interviews of company personnel could provide insights about voluntary disclosure changes over time. Explaining institutional and cultural influences in different countries would enhance the usefulness of the research.

Understanding the cost-benefit relationship of increased financial disclosure would be helpful to companies and countries in less developed markets. A compilation of the most frequently disclosed items of international firms could benefit parties involved in the financial disclosure process.

Finally, the usefulness of annual report information could be examined by a time-series analysis that relates annual report disclosures to financial analysts' earnings forecasts. It would be helpful to know whether annual report disclosures are related to the accuracy and dispersion of earnings forecasts, depending upon the level of international dependence of each firm. The study could also examine other factors influencing enterprise and country disclosure differences to the disclosure-analyst relationship.

Determining whether annual report information relates to the end product of a major user group (financial analysts) would be helpful to parties in the international harmonization effort. International accounting research offers countless opportunities to conduct interesting and meaningful studies.

APPENDIX A
RESOURCE DEPENDENCE THEORY AND AGENCY THEORY

Resource dependency theory and agency theory are theories that emphasize different domains. Resource dependency theory emphasizes the macro-level behavior of the firm within its environment, whereas agency theory typically emphasizes the micro-level behavior of two or more individuals with disparate goals. Resource dependency theory is concerned not with efficiency but with organizational effectiveness--an external measure of how well an organization meets the demands of the various entities that are interested in its activities [Pfeffer and Salancik 1978].

If foreign customer base is good and if financing has been obtained in foreign markets, evidence exists that external parties perceive an effective enterprise. The evidence holds even more weight in an international setting where more uncertainties exist merely because an enterprise is outside its home base. Such uncertainties include not only economic differences across countries, but also legal, political, and cultural differences. One technique to lessen uncertainty is the disclosure of financial information demanded by outside parties.

Resource dependency theory encompasses agency theory. Agency theorists do not model the context of behavior or the potential slippage induced by limited rationality. Because agency theory [e.g., Jensen and Meckling 1976; Fama and Jensen 1983] and transaction-cost analysis[1] [Williamson 1975] assume that individuals are prone to opportunism with guile, they do not explain all possible behaviors related to business interactions and contracts. Perrow [1986, 14] agreed with Herbert Simon's concept of bounded rationality[2] but argued that context and slippage both should account for most of any observed variance in behavior. Interactions and contracts that occur in the international environment are likely to involve varying behavior: self-interested, neutral, and other-regarding. This study of financial disclosure behavior is modeled as firm behavior that is not necessarily prone to deception because business relationships are expected to be ongoing. Resource dependency theory, with its emphasis on arm's length business transactions and on enterprise effectiveness[3], appears more applicable to the real world situations examined in this research.

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[1] Both theories have developed from Coase's focus on the nature of the firm and on the contracting process.

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[2] This is an assumption of agency theory and transaction cost analysis.

[3] Effectiveness is determined by acceptability of a firm's activities by those outside the organization.

APPENDIX B
LETTERS AND SURVEY

First Letter to Companies

January 10, 1994

Manager of Investor Relations
Company Name
Company Address

Dear Manager:

As an accounting doctoral student at the University of Florida in the USA, I am examining the economic and cultural influences upon the levels of company accounting disclosures in the global marketplace. Your company, (*insert name of company*), is an important part of my study of (*insert name of country)* in relation to other developed markets.

I request your assistance with the following items:

1. Please send me your company's 1993 and 1992 Annual Report, in *both* Chinese and English. It is important that I receive both language reports.

2. Please complete the enclosed questionnaire and return it to me at the University of Florida. FOR SECURITY PURPOSES, I HAVE ASSIGNED A CODE NUMBER TO YOUR COMPANY IN ORDER TO INCREASE THE CONFIDENTIALITY OF THE SURVEY.

3. If you would like to receive a summary of my research results, please enclose a business card or provide your name and address on the survey.

Your prompt attention to these requests will be appreciated. If you have any questions, please contact me at 1-904-392-0155 at the University of Florida.

Sincerely,

Marilyn T. Zarzeski

APPENDIX B--continued
International Accounting Survey
University of Florida--1994

PLEASE ANSWER EACH QUESTION. If the answer is NONE, just mark a "0".

COMPANY CODE________
NOTE: Indicate whether the data provided is for 1992___ or 1993___.

A. What are your foreign sales as a percentage of your total sales?_______

B. What is the book value of your total *public* debt (traded on a securities exchange)?________________

C. What is the percentage of your *foreign public debt* to your *total public debt*?__________

1)List the foreign countries in which your bonds have been issued OR traded *publicly* at any time during the past THREE years____.

D. How many total shares of common stock are issued?________________

E. What percentage of common stock is owned by institutions, including banks?_______

F. What percentage of common stock is owned by foreign investors?_______

G. Where can I obtain a listing of your subsidiaries?___________________

H. What percentage of your employees works in foreign countries?______

I. How does the English version of your annual report compare with the home language version? PLACE AN "X" ON APPLICABLE LINES BELOW.

Report Item	English is exactly the Same Wording	English is Condensed	Home Version is Condensed
a) Fin. Statements ONLY	_____	_____	_____
b) Other Financial Data	_____	_____	_____
c) Non-Financial Data	_____	_____	_____

J. Does your company use an external public relations firm for news releases to the general public? Yes___ No___

NOTE: Would you like to receive the results of this research? YES___ NO___

Please return the completed survey to me at the following address
by May 15, 1994: Marilyn T. Zarzeski, University of Florida, BUS 267--School of Accounting, Gainesville, FL 32611 USA

APPENDIX B--continued
Second Request Letter To Companies

May 25, 1994

Director of Investor Relations
Company Name
Company Address

Re: Second Request for Research Data

Dear Director:

This is a second request for assistance with my international accounting research study at the University of Florida in the USA. I am examining the economic and cultural influences upon the levels of company accounting disclosures in the global marketplace. Your company, (*insert name of company*, is a very important part of my research design. Therefore, I do need your response.

1. Please send me your company's 1993 and 1992 Annual Report, in *both* French and English. It is important that I receive both language reports. If you send only one language version, please indicate whether or not your company produces the other language version.

2. Please complete the questionnaire on the reverse side of this letter and return it to me at the University of Florida. For security purposes, I have assigned a code number to your company in order to increase the confidentiality of the survey.

3. If you would like to receive a summary of my research results, please enclose a business card or provide your name and address on the survey.

Your prompt attention to these requests will be appreciated. If you have any questions, please contact me at 1-904-392-0155 at the University of Florida. Thanks in advance for your help.

Sincerely,

Marilyn T. Zarzeski

APPENDIX C
SAMPLE COMPANIES BY COUNTRY

FRANCE	GERMANY	HONG KONG
Alcatel Alsthom	AEG	Anex International
Alcatel Cable	Aesculap	Applied Electronics
Bongrain	Alcatel Sel	Cathay Pacific
Bouygues	Audi	Cheung Kong Holdings
Carbone Lorraine	Babcock	China Light & Power
Carnaud Metalbox	BASF	Chinney Investments
Chargeurs	Buderus	Cross-Harbour Tunnel
Ciments Francais	Continental	Elec & Eltek International
Colas	Daimler Benz	Far East Hotels
DMC	Drager	Fountain Set Holdings
Eiffage	Ex-Cell-O	Furama Hotel Enterprises
Elf Sanofi	FAG	Harbour Centre Developer
Epeda-Bertrand Faure	Fresenius	Hon Kwok Land
Gascogne	Gestra	Hong Kong and China Gas
Gravograph	Gildemeister	HK and Shanghai Hotels
Jean Lefebvre	Grohe	Hongkong Electric
L'Oreal	Hoechst	Hongkong Telecom
Labinal	Kali und Salz	Hopewell Holdings
Lafarge Coppee	Kolbenschmidt	Hutchison Whampoa
Legrand	Krauss Maffei	Novel Enterprises
Michelin	Linde	San Miguel Brewery
Moulinex	MAN	Shaw Brothers
Orsan	Metallgesellschaft	Sun Hung Kai Properties
Pechiney International	Siemens	Swire Pacific
Pernod Ricard	Strabag Bau	Team Concepts Holdings
Plastic Omnium	Thyssen Industrie	Techtronic Industries
Rhone-Poulenc	Volkswagen	Television Broadcasts
Roussel Uclaf	Weru	Tungtex Holdings
Sommer Allibert	Zanders	YGM Trading
Strafor Facom		
Zodiac		

APPENDIX C-- continued

JAPAN	JAPAN--cont'd	UNITED KINGDOM--cont'd
Aida Engineering	Stanley Electric	BICC Group
Asahi Chemical	Sumitomo Electric	BOC Group
Asahi Diamond	Teijin Seiki	Bowthorpe
Canon	Toagosei Chemical	British Vita
Central Glass	Toshiba	Bryant Group
Daihatsu Motor	Toyo Engineering	Cambridge Electronics
Dainippon Ink and Chem.	Toyota Motors	Control Techniques
Fuji Electric	Tsubakimoto Chain	Countryside Properties
Fujitsu	Wakachiku Construction	Crest Nicholson
Ishihara Sangyo Kaisha		Croda International
Isuzu Motors		Delta
Iwasaki Electric	NORWAY	Domino Printing Sciences
Kajima	ABB Norsk Kabel	Electrocomponents
Kokusai Electric	Aftenposten	Emess
Kubota	Aker	FKI
Kumagai Gumi	Apothekernes Labs	Gleeson Group
Kureha Chemical	Awilco Shipping	Graseby
Makita	Dyno	Haden Maclellan Holdings
Matsushita Electric Works	Elkem	Henry Boot
Meidensha	Hafslund Nycomed	Higgs & Hill
Mitsubishi Heavy Industries	Kvaerner Eureka	John Laing
Mitsubishi Kakoki Kaisha	Norsk Hydro	Kalon Group
Mitsubishi Motors	Norske Skog	Laird Group
Mitsumi Electric	Osram	Laporte Group
NGK Insulators	Pronova	Lookers
NHK	Tiedemanns	Lovell Holdings
Nippon Kayaku	Union	Lucas Industries
Nippon Paint	Veidekke	Menvier-Swain Group
Nippon Soda		Metalrax Group
Nippondenso		Molins
Nissan Motor	UNITED KINGDOM	Powerscreen International
Penta-Ocean Construction	Alba	Raine
Pioneer Electronics	Allied Colloids Group	Renold Gears
Sanyo Electric	Alumasc Group	T & N
Showa Denko	Amstrad	Transfer Technology Group
SMC	B. Elliott	Volex Group
Sony	Barratt Developments	Wagon Industrial
	BBA Group	Ward Holdings

APPENDIX C--continued

UNITED KINGDOM--cont'd	UNITED STATES--cont'd
Whitecroft	Juno Lighting
Williams Holdings	Lilly Industries
Wilson Connolly	Maytag
Yule Catto & Company	Monsanto
	Motorola
	Mylan Laboratories
UNITED STATES	NL Industries
A. O. Smith	Olin
A. Schulman	Oshkosh Truck
Aceto	Paccar
Air Products and Chemicals	Parker Hannifin
Amcast Industrial	Pfizer
Chevron	PHM
Cobra Electronics	PPG Industries
Colgate-Palmolive	Pratt & Lambert
Cooper Industries	Procter & Gamble
Crane	Pulte
CTS	Raychem
Deere	Regal-Beloit
Dexter	Rockwell International
Donaldson	Rohm and Haas
Dow Chemical	Schering-Plough
Echlin	Sensormatic
Emerson Electric	Sherwin Williams
Filtertek	Simpson Industries
Fluor	Stepan
Ford Motor	Tecumseh Products
General Electric	Tenneco
General Instrument	Toll Brothers
Genuine Parts	Toro
Giddings & Lewis	Trinova
Guardsman Products	TRW
Harris	Varian
Hastings	Warner Lambert
Helix Technology	Zurn
Ingersoll-Rand	
Jacobs Engineering Group	
Johnson & Johnson	

APPENDIX D
DISCLOSURE SCORING METHODS

Disclosure Study	DISCA 1992	DISCB 1976	DISCC 1973	DISCD 1971	DISCZ 1994
Scaling Method	1-4scale	1-4scale	1-4scale	1-4scale	1-4scale*
Disclosure Source	Stock Ex	Annl Rpt	Annl Rpt	Annl Rpt	Annl Rpt
Population	Int'l	Int'l	Int'l	US	Int'l
DISCLOSURE ITEMS					
GENERAL INFORMATION					
Co. objectives	2.95		2	2	2.95
PPE function, location, size	2.5		2	2	2.6
Products,incl new	2.95		2	1	2.95
R&D info/progress	3		1	3	3
R&D info/progress, incl. expense			4	4	3.5
Employee info	3.3		1	1	3.3
Cap.Expend. Current	3.15	4	1	3	3.15
Cap.Expend. Planned	3.15	3.5	1	3	3.15
Depend major customers	3				3
Industry trends/position	3.2		1	1	3.2
INFORMATION ABOUT MANAGEMENT					
Co.director info	2.7		1	1	2.7
Mgmt info	2.7		1	1	2.7
COMPANY'S CAPITAL					
Stock details	3.2			1	3.2
Number and types of shrhlrs	2.5		1	3	2.5
Large shareholders-name&size	2.95				2.95
Substan.Interest shareholders	3.3				3.3
Options,warrants, conversion rights o/s	3.1				3.1
Hist.-price range & trading volume	2.7				2.7
Co. & subs--loan capital detail/prin.&int.	3.65				3.65

Note *i:* In the scaling methods, 1 indicates less importance and 4 indicates more importance.
Note *ii:* * = DISCA points where available, otherwise average of other methods
Note *iii:* ~ = Disclosure item deemed important by creditors [Chow and Wong-Boren 1987]

APPENDIX D--continued

Disclosure Study	DISCA 1992	DISCB 1976	DISCC 1973	DISCD 1971	DISCZ 1994
Scaling Method	1-4scale	1-4scale	1-4scale	1-4scale	1-4scale*
Disclosure Source	StockEx	AnnlRpt	AnnlRpt	Annl Rpt	AnnlRpt
Population	Int'l	Int'l	Int'l	US	Int'l
DISCLOSURE ITEMS					
FINANCIAL INFORMATION					
Hist. of operating & fin. data-5 years	2.1	3	1	3	2.1
Hist. of operating & fin. data-9 years	2.9	4	3	3	2.9
Audited fin. statements	3.35		3		3.75
SCFP--Comparative	3.3	3.5	4		3.3
SCFP--Single			3	1	3
Dividend record and future pol.	3.1		3		3.3
Consol. & uncon. subs,incl. consol.stmts	3.35		3		3.75
Investments not subs--info	2.85				2.85
Segment earnings--products and cust.	3.05	3.5	2		3.05
Segment earnings--geog.	3.05	1.5	2		3.05
Segment revenue--products and cust.	2.47	2.5	2	2	2.47
Segment revenut--geog.	3.47	2.5	2		3.47
Discussion of company results	3.1		2		3.1
Discussion of signif. acctg policies	3	3.5	3	3	3
Allowance for doubful accounts					3.3~
Inventory breakdown		3	1	1	1.67
Order backlog information			1	1	3
Tangible asset breakdown--PP&E		3			3
Orig.Cost, Accum.Deprn, Depr Exp.				2	2
Current market value of market. sec.		2.5			2.5
Plant capacity used/output			3		3
Changing price levels info		3			3
Deferred taxes--expensed vs. paid		2.5		3	3.75
Income Statement--Single			3		3
Income Statement--Comparative			4	4	4
Income Statement--Relevant Subclasses			3		3
Distribution of Income			3		1
Balance Sheet--Single			1		3
Balance Sheet--Comparative			4	4	4
Balance Sheet--Relevant Subclasses			1		1
Earned Surplus--reconciliation		3.5	3	3	3.17

* = DISCA points where available, otherwise average of other methods

~ = Disclosure item deemed important by creditors [Chow and Wong-Boren 1987]

APPENDIX D--continued

Disclosure Study	DISCA 1992	DISCB 1976	DISCC 1973	DISCD 1971	DISCZ 1994
Scaling Method	1-4scale	1-4scale	1-4scale	1-4scale	1-4scale
Disclosure Source	StockEx	AnnlRpt	AnnlRpt	Annl Rpt	AnnlRpt
Population	Int'l	Int'l	Int'l	US	Int'l
DISCLOSURE ITEMS					
FINANCIAL INFORMATION					
Sales OR Gross Margin only		1.5			1.5
Both Sales and gross margin		3			1
Past Pension fund liability					2.1~
Advertising expense				1	1
Contingent liabilities				1	1
RECENT DEVELOPMENT/PROSPECTS					
Major factors to influence next year	3.4		2	2	3.4
Profit Forecast	3.4		4		3.4
Cash projections for 1 to 5 years					3.3~
TOTAL POINTS	95.49	47	73	49	144.78

* = DISCA points where available, otherwise average of other methods
~ = Disclosure item deemed important by creditors [Chow and Wong-Boren 1987]

DISCA = Adhikari and Tondkar [1992]
DISCB = Barrett [1976]
DISCC = Choi [1973b]
DISCD = Singhvi and Desai [1971]
DISCZ = Zarzeski [current study]

Note: Total points do not include duplicate items such as Balance Sheet--Single and Balance Sheet--Comparative. Only the higher point allocation of the two options is added to the total points.

APPENDIX E
REQUIRED DISCLOSURES BY COUNTRY

DISCLOSURE ITEMS	FRA	GER	HOK	JPN	NOR	GBR	USA
GENERAL INFORMATION							
Co. objectives	*	*		*	*	*	*
PPE function, location, size							
Products,incl new	*	*	*				*
R&D info/progress							
R&D info/progress, incl. expense							
Employee info	*	*			*	*	
Cap.Expend. Current		*					*
Cap.Expend. Planned							
Depend major customers							
Industry trends/position					*		
INFORMATION ABOUT MANAGEMENT							
Co.director info		*	*	*	*	*	*
Mgmt info		*					*
COMPANY'S CAPITAL							
Stock details			*	*		*	*
Number and types of shrhlrs							
Large shareholders-name&size							
Substan.Interest shareholders			*				
Options,warrants, conversion rights o/s							*
Hist.-price range & trading volume							*
Co. & subs--loan capital detail/prin.&int.							*

FRA=France, GER=Germany, HOK=Hong Kong, JPN=Japan, NOR=Norway, GBR=Great Britain, and USA=United States of America

* = Item disclosed by at least 90% of sample companies in each country.

APPENDIX E--continued

DISCLOSURE ITEMS	FRA	GER	HOK	JPN	NOR	GBR	USA
FINANCIAL INFORMATION							
Hist. of operating & fin. data-5 years			*				*
Hist. of operating & fin. data-9 years			*				*
Audited fin. statements			*	*	*	*	*
SCFP--Comparative			*		*	*	*
SCFP--Single			*		*	*	*
Dividend record and future pol.			*	*		*	*
Consol. & uncon. subs,incl. consol.stmts	*	*	*		*	*	*
Investments not subs--info							
Segment earnings--products and cust.							*
Segment earnings--geog.							*
Segment revenue--products and cust.							*
Segment revenut--geog.		*					*
Discussion of company results	*	*	*	*	*	*	*
Discussion of signif. acctg policies		*	*	*	*	*	*
Allowance for doubful accounts				*			
Inventory breakdown			*			*	*
Order backlog information							
Tangible asset breakdown--PP&E	*	*	*	*	*	*	*
Orig.Cost, Accum.Deprn, Depr Exp.		*	*	*	*	*	*
Current market value of market. sec.							
Plant capacity used/output							
Changing price levels info							
Deferred taxes--expensed vs. paid					*	*	*
Income Statement--Single	*	*	*	*	*	*	*
Income Statement--Comparative	*	*	*	*	*	*	*
Income Statement--Relevant Subclasses	*	*		*	*	*	
Distribution of Income							
Balance Sheet--Single	*	*	*	*	*	*	*
Balance Sheet--Comparative	*	*	*	*	*	*	*
Balance Sheet--Relevant Subclasses	*	*		*	*	*	*
Earned Surplus--reconciliation							*

FRA=France, GER=Germany, HOK=Hong Kong, JPN=Japan, NOR=Norway, GBR=Great Britain, and USA=United States of America

* = Item disclosed by at least 90% of sample companies in each country.

APPENDIX E--continued

DISCLOSURE ITEMS	FRA	GER	HOK	JPN	NOR	GBR	USA
FINANCIAL INFORMATION							
Sales OR Gross Margin only	*	*	*	*	*	*	*
Both Sales and gross margin	*	*	*	*	*	*	*
Past Pension fund liability					*		*
Advertising expense							
Contingent liabilities							*
RECENT DEVELOPMENT/PROSPECTS							
Major factors to influence next year							
Profit Forecast					*		
Cash projections for 1 to 5 years							*

FRA=France, GER=Germany, HOK=Hong Kong, JPN=Japan, NOR=Norway, GBR=Great Britain, and USA=United States of America

* = Item disclosed by at least 90% of sample companies in each country.

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BIOGRAPHICAL SKETCH

Marilyn Taylor Zarzeski was born in Youngstown, Ohio, in 1949. She was valedictorian of her high school class of 416 students at Austintown-Fitch High School in 1967. Marilyn received her B.A. with a major in health and physical education from Notre Dame College in 1971. After two years of high school teaching, she completed her M.B.A. with a concentration in accounting from Youngstown State University in 1976. She earned her C.P.A. license in Florida in 1978.

From 1976 through 1982, Zarzeski held auditing, accounting, and marketing positions at Flagship Bank (Miami), American Express Company (Fort Lauderdale and New York City), and CIGNA (Chicago). She became assistant professor of accounting at Barry University (Miami) in 1983 and left there as associate professor in 1989 in order to enter the doctoral program at the University of Florida.

In 1992, Marilyn married Tom Taylor; they have two sons, Dean (16) and Dana (13). Marilyn completed the doctoral program in 1994 and received a Ph.D. with a concentration in international accounting. She then accepted a faculty position at the University of Central Florida.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Bipin B. Ajinkya, Chairman
Professor of Accounting

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

A. S. Ahmed
Anwer S. Ahmed
Assistant Professor of Accounting

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Roy Crum
Roy L. Crum
Professor of Finance, Insurance,
and Real Estate

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

Ronald W Ward
Ronald W. Ward
Professor of Food and Resource
Economics

This dissertation was submitted to the Graduate Faculty of the Fisher School of Accounting in the College of Business Administration and to the Graduate School and was accepted as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

December 1994

Dean, Graduate School